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October 1993 Scenic Travel Wildlife Sports Vol. 9 No. 8

Wayne Green

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Whether wind, rain, sleet or snow, bad weather can result in good photos. These garments will take the damp and cold out of your upcoming fall and winter outings.

STAFF REPORT

The world's longest lasting AA camera battery by

Deborah Turbeville

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Outdoor Photographer

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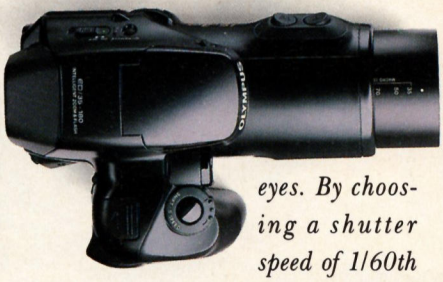
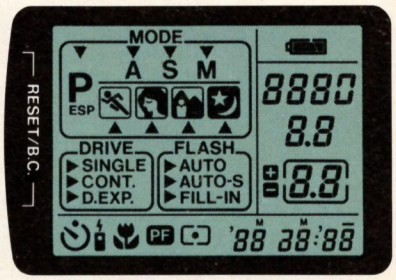
Technical Notes

The photograph on the opposite page was taken with the Olympus IS-3 DLX. In order to capture the moment and show the utmost respect at the Vietnam Veterans Memorial, we had to work quickly. The IS-3's superfast autofocus mode was used to lock in on the subject's



eyes. By choosing a shutter speed of 1/60th and an aperture of 4.5, the photographer controlled depth of field to keep the foreground sharp and throw the background out of focus. At 35mm the lens would be wide open. This is a test for any lens, whether fixed focal length or zoom. The IS-3 passed that test with flying colors. It delivered a photograph that is sharp from edge to edge. Throughout its zoom range, the IS-3 DLX gives critical sharpness, even at the extremes. In fact, the optional lenses, such as the



300mm, are matched to provide the same sharpness. The large and clear LCD panel enabled the photographer to choose from an astounding array of options with a touch of a button. It's as if there's a computer working with you to select exactly the program you need to create a great photograph or simply make a hard copy of your life.

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–By Tim Boyle, President, Columbia Sportswear

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As president, I'm the first one to applaud my mother's regular departures from the norm. But I think those earrings are a bit much.

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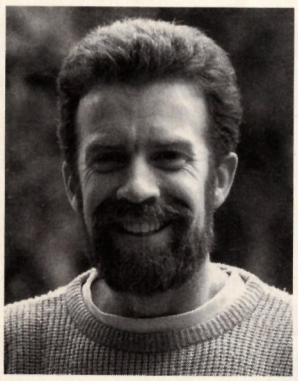
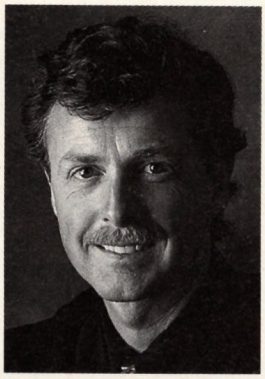
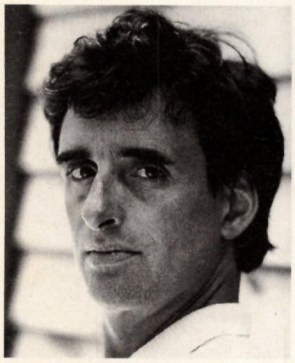
IN THIS ISSUE

Long before Walden found his pond, sojourns into nature's solitude have afforded an opportunity for peaceful introspection and quiescent observation—two activities not often enjoyed by busy Americans competing in a global economy. In order to take a break from the business of life, we frequently require a catalyst: for some it's a plane ticket out of town; for others it's a fishing rod, a sailboat, a backpack...or a camera. As a not-so-young urban professional, photography is the perfect prescription for my hypertension—those times, with camera in hand, when a particularly slow-to-develop scene requires me to slow down, wait and sip at the surroundings, rather than eat and run. A favorite summer pastime is sitting atop the baked-potato rocks of the Alabama Hills, waiting for the sun to set behind Mount Whitney and paint the high cirrus clouds in shades of tangerine and peach; waiting for the wind to die; waiting for the rocks to release their heat; waiting for the hard light to turn soft; then after sunset, waiting until the last lavender glow leaves the sky.







William Neill, Art Wolfe, Ned Gillette: Slowing down the photo process in the fall woods, in the camera, on the highest mountain.

Savored by many photographers is the wait for the blaze of autumn to break the monotony of summer green, then strolling into the cool woods to find the perfect combination of color and symmetry. In his discourse on fall photography, "The Art Of Autumn," page 36, William Neill extols early on the pleasures and benefits of taking it slow, taking the time to look thoroughly—an essential prerequisite to any discussion of film choice and camera technique.

Careful and deliberate observance is also the theme of Art Wolfe's lesson on composition in which he illustrates the process for distilling a scene to its graphic essence. This issue contains the first installment in a series of nine exclusive excerpts that we'll be publishing from *The Art Of Photographing Nature* by Wolfe and co-author, Martha Hill, a former *Audubon* photo editor (and wife of Kevin Schafer, a past contributor to *OP*), page 54. You can look forward to the remaining eight articles on a variety of subjects in upcoming issues, spread over the next 12 months.

Marshall Noice demonstrates the ultimate photographic distillation of the landscape when he reduces the spectacular scenery of Montana's Glacier National Park to the simplicity of black-and-white tones—"Glacier In Black & White," page 58. Just as he must have painstakingly chosen his subjects for their exceptional light and texture, so the viewer of the finished photograph is compelled to linger.

Finally, adventurer Ned Gillette relates the success of his climb and photos taken from the world's highest vantage point in "View From Everest," page 30. It's hard to imagine a place on this Earth where a photographer's steps come slower and the landscape is more breathtaking (pun intended), yet photography is more of a chore than on 29,000-foot Mount Everest. It's a rare example of an instance in which a protracted pace and the photographic process are at odds.

—Steve Werner, Editor

Outdoor Photographer

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Listen carefully. That sound you hear is your heart beating. The moment has finally arrived. Only you can turn it into a picture for the rest of the world to see.

At a time like this, a photographer doesn't think about metering, *f*-stops or automatic balanced fill-flash.

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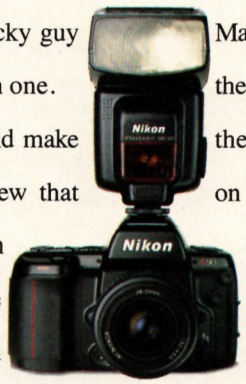
Brett Froomer knows the story. He only had a split second to photograph this stuntman before he became toast. Thankfully, his assistants stood by with fire extinguishers. So this lucky guy was saved in more ways than one.

Brett knew that this would make a great picture. He also knew that fill-flash would make it even better. Fill-flash allows the film to see more details in the shadows without blowing out the highlights. Which means, you get richer colors. Better pictures. But who has time to make fill-flash calculations? *"Excuse me, Mr. Burning Man, please hold still while I figure this stuff out."*



Instead, Brett put his Nikon N90 on Programmed Auto, and let the 3D Matrix Meter go to work. It reads the light and adjusts for details in the highlights. Note the helmet on the human fireball. It analyzes center and background areas too. Add the SB-25 Speedlight, and further analysis from the world's first 5-segment flash sensor and you've got 3D Matrix Automatic Balanced Fill-Flash. You won't find features like these on any other camera. It works in milliseconds. And it means better pictures even under the most complicated lighting conditions. See? Not only was our stuntman moving rapidly (people on fire tend to do that), but the light in the scene was changing as well.

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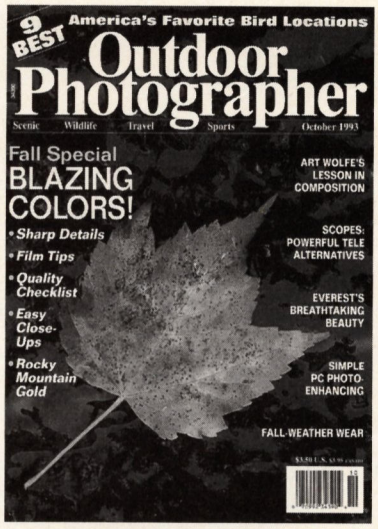
COVER SHOT



Photographer: John Netherton
Subject: Red leaf at Fall Creek Falls State Park, Tennessee
Equipment: Nikon F4, Nikkor 60mm Micro, Fujichrome 50
Exposure: 1 sec. at *f*/22
Situation: Every few years, photographer John Netherton makes the short trip to Fall Creek Falls State Park from his Nashville, Tenn., home. The park is best known for the half-dozen scenic waterfalls scattered throughout.

On a bright autumn afternoon with an intense blue sky, Netherton came upon this waterfall. It was around high noon and the strong overhead sunlight made shooting in the open impossible. By working in the shade, time that would have been wasted could be spent making a great image.

Netherton liked the basic setup, but felt that there was no real focal point. After about 15 minutes of scouting in the area near the falls, this red leaf was located. The leaf met Netherton's criteria of being almost perfect—that anything placed into a photograph should have some minor imperfection in order to make the feeling of the shot believable.

Whenever Netherton strongly feels that an image has great merit, he exposes several camera-original dupes. He adjusted the leaf a few times and settled on this diagonal composition. The bright blue of the sky reflecting in the water created contrast with the leaf and added the final touch that made this the photo of the day for Netherton.

LETTERS

Nikon Correction

Several Nikon sales and technical persons brought the August '93 issue of *OUTDOOR PHOTOGRAPHER* to my attention. It appears there's a typographical error on page 26 in the Gadget Bag article, "Double Your Pleasure."

The article reads, "When used with the "D" series of Nikon lenses, both teleconverters allow for full electronic coupling of the lens to the camera body." Instead of referring to the "D" series of Nikon lenses, the copy should have said "AF-I" series of lenses.

The two teleconverters about which you wrote are compatible exclusively with Nikon "AF-I" lenses, and while the "AF-I" lenses are also "D" lenses, not all "D-type" lenses are "AF-I" lenses.

Richard LoPinto
Vice-President, Nikon Inc.
Photo Marketing Division
Melville, New York

Volleyball Shooting Tips Score

I loved the article, "Set-Shoot-Score!" by Thom Harrop in the August issue. As an avid AVP fan and an amateur photographer, I greatly appreciated the tips provided. I realized a lot of the mistakes I was making.

I find that the volleyball tour is the best place to capture some fantastic sports photos. As Craig Flax said, everybody is laid back on the beach and the players are all eager to hold lengthy conversations with the fans. The best pictures to take are often on the outer courts where sometimes it's only you and the players.

I'm glad to see the AVP and its photographers get the attention they deserve. I'll be trying out those new tips at the Tour's next stop. See you on the beach!

Amy Ruggini
Raritan, New Jersey

Lightning Strikes Again

Your feature on lightning in the August '93 issue by Keith Kent ("A Flash Of Inspiration") struck up some old memories of seeing "ball lightning" when I was a child. I've pursued this issue for years, writing to photographers of lightning with no results.

Recently, I got lucky and observed hundreds of ball lightning-like discharges in the super-voltage machines at Oak Ridge National Laboratory and elsewhere.

Igor Alexeff
Professor of Electrical Engineering
The University of Tennessee
Knoxville, Tennessee

Olympus OM-4, Not IS-3

Due to a mix-up of slides and captions submitted for the Olympus IS-2 and IS-3 test article in the August issue ("The Dynamic Duo From Olympus"), the caption for the photograph on page 57 of Crystal Geyser near Green River, Utah, needs some clarification.

Crystal Geyser is a beautiful phenomenon—a cold-water, CO_2 geyser that erupts every 12 to 14 hours and reaches a height of around 100 feet. Eruptions last 10 to 20 minutes.

The photo was not taken with the IS-3—it was taken with my Olympus OM-4—and is a double exposure. The image of the moon, which was behind me, was taken using a 200mm lens and the exposure was 1/60 sec. at *f*/16. With the moon in the frame, I switched to a 24mm lens at *f*/2.8 and composed the scene to include the geyser, the mountain backdrop, the North Star and the Big Dipper.

When the geyser began to erupt, I opened the shutter with a locking cable. Standing outside the field of view, I shone a powerful flashlight on the geyser stream, running the light up and down the entire height of the eruption. The total exposure time was approximately 10 minutes. This was one of those wild-guess, experimental photos that produced stunning results.

It would not have been possible to take this photo with the Olympus IS-3 since the camera's maximum aperture is 4.5.

Dan Norris
Ancient Images
Moab, Utah

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BY GEORGE LEPP

Every year I run a photography workshop at Mono Lake on the east side of California's Sierra Nevada Mountains, and each year the participants discover tips or problems that reflect conditions found by many outdoor photographers. Here are the jewels from this year's session.

Getting More Than Expected

I've discovered that many outdoor photographers don't realize their viewfinders are showing only 92 to 94 percent of what will be on the film. The only 35mm SLR cameras that are manufactured with 100-percent viewfinders are the Canon EOS-1 and the Nikon F2, F3 and F4. All the rest show less.

This means the photographer using the diminished viewfinder must be aware of what is at the edges of the composed image. Branches, leaves, weeds—all have a habit of showing up at the edge where they aren't welcome. I've often heard the excuse that the slide mount or the negative printing machine cut off the approximate amount not shown in the viewfinder. Not!

One of the reasons the pros use EOS-1s and F4s is the 100-percent viewfinder. So why don't more camera manufacturers make them? The added cost to manufacturing larger viewfinders has been a hindrance.

Malfunctions? Battery Check!

If one of your electronic accessories begins to malfunction, the odds are good that the cause is batteries low in power. The camera just plain quits when the voltage falls below a certain level. With electronic flash units, the built-in Fresnel zooms can start to zoom in and out, distance displays begin to blink and recycle times get ridiculous. Don't send the unit in for repair—replace the batteries. Better yet, use rechargeable auxiliary power

packs to save the high price of short-term alkaline batteries. When waiting to photograph birds from a blind, for instance, the long recycle time and low number of available flashes make an external battery pack a must. The problem is equally as devastating with professional and even point-and-shoot cameras.

If you're going to be in the field for an extended period of time, purchase a power converter that recharges one or more battery packs by converting the 12-volt battery power from your vehicle into usable AC power. It takes minimal power to completely recharge a small auxiliary flash power pack from a car's large battery.

I say it every year, and I'll say it again: Carry extra camera batteries with you at all times. Don't leave them back in the car; they won't help you after you've climbed that mountain and have a pika in view when the camera goes belly-up with a dead battery.

It takes minimal power to completely recharge a small auxiliary flash power pack from a car's large battery.

Body Care

Not camera bodies, but our own bodies. This bit of advice comes from yours truly by firsthand experience. When working at higher elevations, be sure to drink plenty of liquids to avoid dehydration. The combination of low humidity, exertion from climbing and the possibility of altitude sickness dictates the need for extra fluids. I didn't pay heed and paid a visit to the emergency room of a nearby hospital. Save yourself a lot of problems by carrying a plastic bottle filled with water or a special beverage like Gatorade. These fluids are absorbed by the body more quickly than water, but both will allow you to concentrate fully on your photography.

An Eye-On-Eye Correction

One workshop participant was having difficulty focusing an autofocus camera. Placing that lens on my identical camera body, I discovered that the lens focused perfectly. The culprit was a diopter control for the viewfinder that had been moved out of position accidentally. If the setting isn't too far off, however, the eye can adjust to a degree. But by simply resetting the diopter adjustment back to "0," the lens again focused easily. I later checked my cameras and found one of them had the viewfinder diopter set to the wrong setting. Check your own camera before heading into the field to be sure your viewfinder image will be sharp—the first prerequisite for capturing good images on film.

Better Marks

One of my workshop participants showed me a simple tip that I implemented immediately. He had taken white paint and filled in the dot that marked the aligning point on his lens and body caps. How many times have you fumbled with replacing caps? I used a liquid paper correction fluid to fill in the dots on my lens and body caps, and it does make a difference.

One additional benefit to marking your lenses becomes evident when photographing with a friend who uses the same type of equipment you do. You'll be able to easily identify your lens caps and hopefully won't lose them in his or her camera bag anymore. Next time, of course, they'll have also marked their caps and you'll be back to retrieving wandering accessories.

Leave Them Standing

In the quest for firewood to warm campsites, dead trees are being pushed over and cut up. These standing trees are the present or future homes of many cavity-nesting birds. We're seeing an ever-increasing number of these important trees being sacrificed for a few roasted marshmallows. If you see this happening where you're camping, spare the tree and help a bird. **OP**

If you have any tips or questions, address them to: OUTDOOR PHOTOGRAPHER, Dept TT, George Lepp, 12121 Wilshire Blvd., Suite 1220, Los Angeles, CA 90025.

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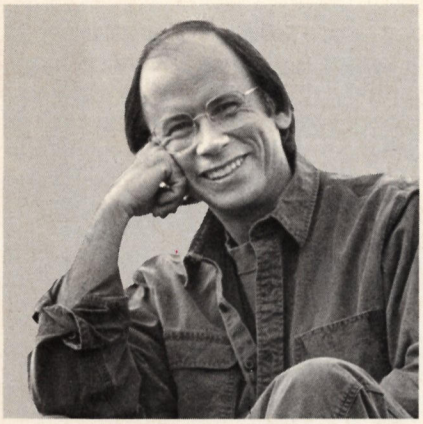

Promises To Keep

By simplifying our images visually, we chisel away the insignificant and fulfill a pact with our subjects and ourselves

BY DEWITT JONES

Cold, riding home late...winter, that would work. Riding home late in winter.... Focusing the vision. Looking at a scene until you abstract its essence; until you can show the viewer just what they need to see and nothing more. This is the heart of the photographic process, a game I love to play over and over again.

Staring through the viewfinder, something out there is exciting me. What is it? The line? The color? The texture? The feeling of loneliness? Slowly the feelings focus and articulate themselves.

Big flakes falling, dampening all around. No wind. The soft pressure of the silence. That's the feeling.

I was in Scotland, shooting for Dewar's Scotch. While my crew was running cable to light a pre-electric castle, I garnered a few moments for myself and slipped outside into the newly fallen snow with my camera and my long lenses. Silent and monochromatic, it was a world of black and white in color—a huge, hushed, pencil-sketch world. I zoomed my lens to 200mm and started scanning. What exactly was I looking for? I really didn't know, not yet. Abstraction, that was the beginning of it. I wanted my photo to have the same penciled feeling as the landscape before me.

My lens came to rest on a composition of trees and a farm (photo #1). The telephoto lens compressed the landscape, removing the sense of depth and, in doing so, increasing its intensity. Trees in the upper right background were seen in the same

plane as the buildings in the lower left, the resultant feeling more like a drawing than a photograph. That part I liked. But the overall composition had still not resolved itself. The more I looked, the more I realized that the focus of this shot was the farm buildings and they were hidden by the trees. Trees hiding other trees my mind could handle, but trees hiding buildings—my mind wouldn't let that alone. It kept pushing to see what the farmhouse looked like and became frustrated when it couldn't. "Keep looking," I thought. "This is just the right answer."

Not close to a farmhouse, away and alone, maybe in the fields.... I'll try it.

From my distant vantage point, I couldn't bring the farmhouses from behind the trees, so I kept scanning. "Simplify, simplify," my mind kept repeating. I switched to a 300mm lens. Up...no, a little more to the left...there (photo #2).

My feelings and the composition were beginning to come together. The 300mm lens had heightened compression and the shot was much simpler. Four clear compositional elements: the hedgerow and fence in the foreground, the row of trees in the middle, the forest on the crest of the hill and the line of the road weaving them together. "Better," I thought. "Much better."

Not the fields...the forests. The dark silent mystery of the forests. That's it, that feels right.

The more I looked, however, the more I began to see a composition within the composition. The tree, road and hedgerow in the lower half of the frame were mirrored by the tree, road and forest at the top. I put on my 400mm to get even closer.

Simplicity at last. My eye stood before the single, silent tree in the center of the photograph. It trudged slowly and inevitably up the snow-covered road and stared into the darkness of the forest, darkness comforting yet foreboding at the same time. Just two elements and the road linking them. Clear focus. Clear vision. Just sit with it for a moment and enjoy it. Push the shutter (photo #3).

They were calling from the castle that the lighting setup was complete. I let my eye linger just a moment more....

But I have promises to keep...and miles to go before I sleep...and miles to go before I sleep. **OP**

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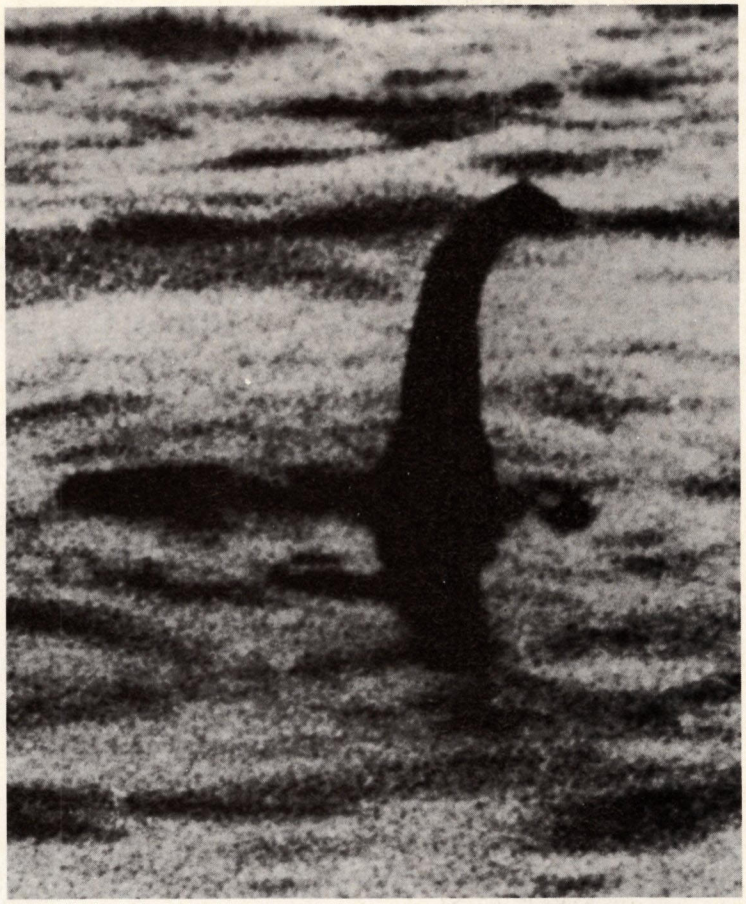

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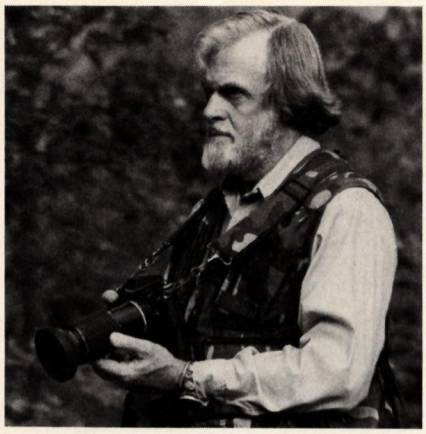

Treasure Of The Santa Ana

This small wildlife refuge offers big rewards for the photographer who has the patience to capture its various inhabitants

BY LEONARD LEE RUE III

One of the best-kept secrets in outdoor photography is the Santa Ana Refuge. Although small in size, in photographic possibilities it is a treasure trove. Located along the Rio Grande River just east of McAllen, Texas, Santa Ana is a little more than six square miles in area, and contains some of the last wild riverine brushland in Texas.

I haven't counted my sightings list of North American birds recently, but it probably numbers more than 400 species. In my first pass through the refuge, I was thrilled to add five new birds to my list, and as time goes on that becomes difficult to do. In the brushland, I saw the chachalaca, the green jay and the Lichtenstein oriole. On one of the ponds, I saw the least grebe and on a branch overlooking the pond, I spotted a kiskadee flycatcher. What was even more thrilling was that over the next two days, I was able to photograph all five species. I saw many other birds during my visits in the refuge, including the lesser and greater yellowlegs, the caracara and the black-bellied tree duck.

I suggest entering Santa Ana at sunrise when the refuge's wildlife is most active. Strategically located throughout the park are several wooden bird blinds, which are open to all visitors on a first come, first serve basis. The rangers put out cut oranges for the orioles and seeds for the green jays at feeding stations placed in front of the blinds. Since the blinds are a good size, they'll easily hold three or four photographers at a time, and one blind even has wheelchair access. One disadvantage is that people are constantly entering and leaving the blind, which doesn't really disturb the birds but may cause camera shake through vibration.

You can take good photographs using an 80-200mm lens. My favorite lens is the Nikon 200-400mm zoom,

and with the longer lenses in the 300-400mm-length range, you can take superb photos. Although there's a lot of brush and shade, it's not a dense shade because the brush is fairly open around the blinds. I didn't use flash since there were enough branches exposed to sunlight upon which the birds perched to allow me to shoot without flash. I'm not sure if flash is allowed in the refuge, but I always prefer not to use flash in any situation unless I absolutely must. The birds, particularly the chachalacas, have become so accustomed to people that you can do a lot of photography by simply walking through the refuge with your camera and tripod.

The chachalacas look like miniature wild turkey hens and a nickname for the bird is "brush turkey." The birds are olive tan in color, about 18 inches in length and have a dark tail tipped in white, which is about eight inches long. You won't have any trouble finding these birds as they're very garrulous, making a constant racket with their calling. They flutter up into the bushes to sit in the early morning sun to warm themselves. The chachalacas are very common in the refuge, but are comparatively rare outside of it since the Mexican side of the Rio Grande hasn't been as extensively developed as the American side, which provides the brush cover the birds need.

Small cats like the ocelot and jaguarundi, or eyra, are found in the refuge, but I didn't see either, as these are extremely furtive animals. I saw no deer or javelinas either, although both are found there. Also common in the refuge are the least grebes—little, dark butterballs of fluff. Because they're only about six inches long, you'll need your larger lenses. The edges of the park also teem with egrets, herons, ibis, ducks and shorebirds.

To work the ponds, you'll want to bring your big artillery—600mm or 800mm lenses and the 1.4 teleconverters. Although I saw no snakes in the refuge, the underbrush is ideal for the western diamondback rattlesnake, while the rushy marsh edge is a perfect habitat for the cottonmouth moccasin. By using your long lenses, you won't have to walk through the high cover where you may encounter either of these large, poisonous snakes.

To play it safe, you may want to wear snakeproof boots. I prefer to wear the Rattlers snakeproof chaps and good hiking boots that give maximum protection. The chaps also give you excellent protection against the thorns and spines on the vegetation. As a protection against chiggers and ticks, I saturate the legs of my pants with Permanone. I take the proper precautions before I go out in the field so I can photograph with a minimum of concern.

Despite its name, the Rio Grande isn't a particularly beautiful river, and when I was there, it was very muddy from the high water runoff caused by recent rains. There are about 14 miles of foot paths in the refuge, with a good one running to the river. For those interested in botany, the refuge offers a great variety of vegetation found nowhere else in the United States. Five of the champion large trees of the United States are found in the refuge, including a huge ebony tree with a trunk circumference of 131 inches.

The best time to visit the Santa Ana Refuge is during the winter to avoid the searing summer heat and humidity. I don't care what Horace Greeley said—I say, "Go south, young man and young woman, go south." OP

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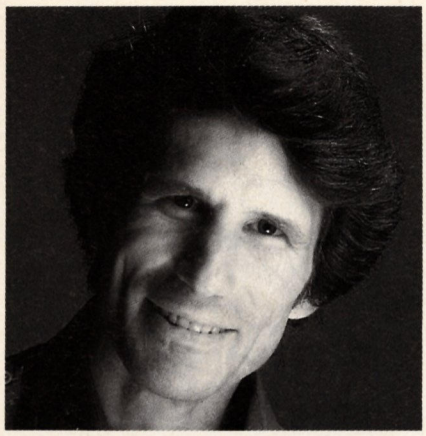

The Photographer As A Blind Monkey

Vision doesn't always come through our eyes—it must be filtered through our conscious awareness

BY GALEN ROWELL

After a one-day seminar for hundreds of photographers, a few participants invited me out for a beer. As we sat down, several people thanked me profusely for the visionary philosophy I had expressed, while one fellow seemed clearly unenthusiastic. Had I offended him? Perhaps he was an engineer who took personally my comment that members of his profession are more likely to make technically perfect but uninspired photographs because they've been taught to present facts without emotion. When I tried to bring him out by asking about his photography, his answers were lackluster.

After a couple of beers, he let it out: "All that visionary crap about Einstein and Van Gogh won't do us any good. You take your kind of pictures; we take ours. You see the world differently because you always have. You gave us a few technical tips, but that visionary crap went right over my head. I'm going to go out and shoot the same kind of pictures I've always shot."

Later that evening, I laid awake in yet another Holiday Inn wondering if either this doubter or his more enthusiastic buddies would really improve the way they saw the world through the lens after passively ingesting my seminar.

My wife, Barbara, has voiced the same kind of doubt about my current book project. By both natural gift and osmosis, she has become a visionary photographer in her own right, but she questions whether the biological and scientific information I've been researching will have much relevance for the average photographer.

My future book, *The Visionary Wilderness*, will explore the cognitive chasm between what the eye and the camera see. At first I shared Barbara's doubts that mere knowledge about the differences between how we create imagery in our minds and on film

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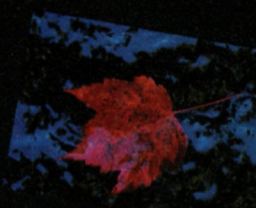

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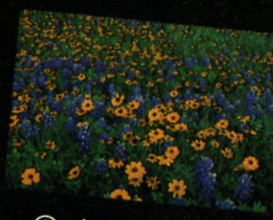

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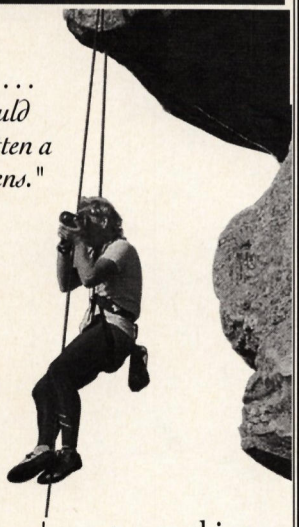
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could empower photographers, especially because our perception is so seemingly automatic. It's this very assumption that seeing is a singular truth that gets us into trouble. We learn lots of ways to adjust our cameras without giving much attention to how to adjust the way we see. Visionary seeing goes a step beyond mere sensing what is before our eyes.

Before I dozed off, I thought of a provocative statement that really would have raised the neck hairs of the visionary doubter at my seminar: I have reason to believe that a blind monkey could make a better photographer than a blind man who denies the visionary aspect of sight.

I'm not talking about any blind monkey here, nor am I saying that blind monkeys take better photographs than your average engineer. I have in mind a specific comparison between one blind monkey and human beings who suffer from the same rare kind of cortical blindness. Their eyes are functional, but no image forms in their brains.

As part of a Cambridge study into a fascinating syndrome called "blindsight" begun in the '60s by Lawrence Weiskrantz, Helen the rhesus monkey had her entire striate cortex surgically removed. Weiskrantz was studying similarly blind humans who have no conscious awareness of "seeing" objects before their eyes. Several human subjects, when coerced to reach for something unseen, extended their hand in the proper direction and unconsciously opened it the proper amount to grasp differing "unseen" objects, such as pens or cantaloupes. Even after hundreds of successful trials, these subjects insisted nothing was "there" for them to see.

Humans with "blindsight" are consistently passive about their ability to sense objects they can't consciously see. (Just as those photographers who can't "see" pictures are consistently passive about imagining how their results on film compare to what they saw before their eyes.) What is happening in "blindsight" is not that a person is unable to act, but that he or she chooses not to make an unreasonable gesture toward something unless its presence is "sanctioned" by conscious awareness.

We might expect Helen to have lived out her days huddling in fear in a tiny cage, maimed in the interest of science, but she performed far better than her more free and comfortable "blindsighted" human counterparts. Nicholas Humphrey, a graduate student of Weiskrantz' in the '60s, describes how he "worked with her for seven years...coaxed her and encouraged her...played with her and took her for walks in the fields near the laboratory. I tried in every way to persuade her she was not blind.... Eventually she could move deftly through a room full of obstacles and pick up tiny currants from the floor. She could even reach out and catch a passing fly. Her 3-D spatial vision and her ability to discriminate between objects that differed in size or brightness became almost perfect.... When she was running around a room she generally seemed as confident as any normal monkey. But the least upset and she would go to pieces: An unexpected noise or even the presence of an unfamiliar person in the room was enough to reduce her to a state of blind confusion. It was as though, even after all those years, she was still uncertain of her own capacity—and could only see provided she did not try too hard to see."

For Humphrey, Helen was a link in a lifelong study he chronicled in his 1992 book, *A History of the Mind: Evolution and the Birth of Consciousness*. He believes one reason that no human has ever approached Helen's ability to function with "blindsight" is that humans are so self-consciously aware that they don't want to appear foolish by reaching out for things they can't see or trying to move quickly among them. As Humphrey quips, "Foolishness is probably not an emotion that monkeys feel." Anyone who has been to the zoo knows monkeys act out in all sorts of ways that human beings would never think of doing in public.

Monkeys easily learn tricks because they act more on impulse than on consciously recalled procedures. Thus the tale of a blind monkey and a blind man, both receiving visual information without conscious awareness, is a parable for the difference between photographers who act on impulse to emotionally express visionary scenes on film and those

(Cont'd on page 89)

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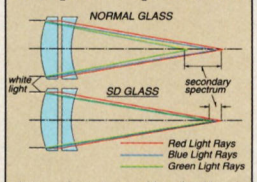

Using wide aperture and long focal length lenses can lead to difficulty in controlling chromatic aberration. Tokina lenses with SD Glass minimize this effect, creating the sharpest image possible.

But to get the whole picture you need more than a great lens. With Hoya HMC multi-coated filters, light reflections are minimized (almost eliminated with new Super HMC) on the filter's surface, resulting in sharp contrast and well-balanced color even against back-lighting. The Hoya name can be found on an expansive line of high quality color and black & white filters for most situations.

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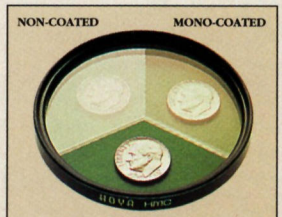

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Hoya HMC Multi-coated filters minimize light reflections and create sharp contrast and well-balanced color.

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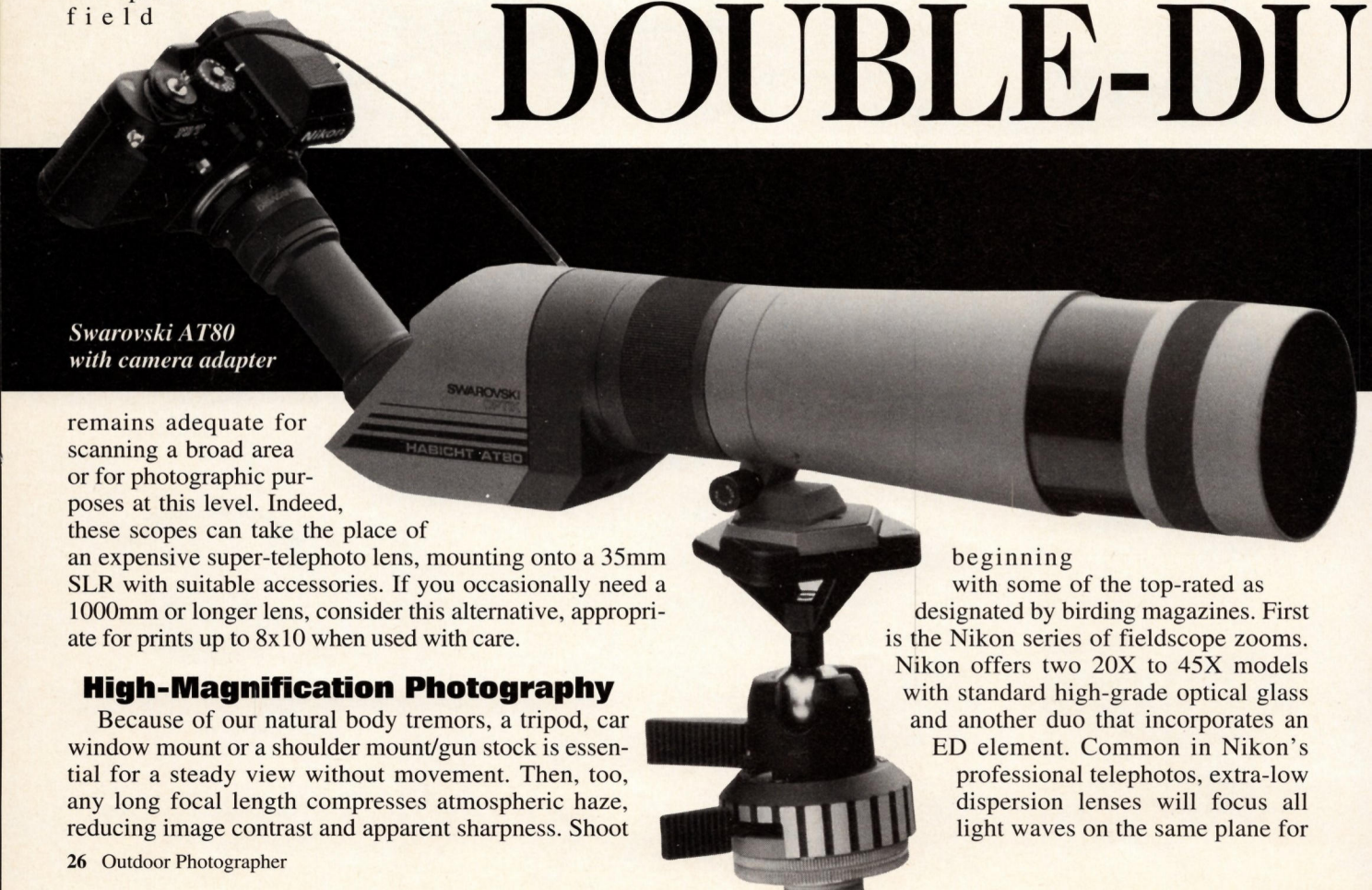
DOUBLE-DU

Although binoculars offer a practical means for increasing magnification, their 5X to 10X power isn't always adequate. Wildlife observation, study of nesting birds or spotting distant game frequently calls for greater reach. Popular among hunters and birdwatchers, spotting scopes have yet to be discovered by most photo enthusiasts—and these devices can serve double duty in the hands of a photographer.

Designed for terrestrial observation, spotting scopes are far more compact than astronomical telescopes and are built to withstand field use. Magnification varies depending on the eyepiece purchased but generally starts at 15X, with some models offering a full 60X. A 20X or "20-power" scope magnifies an object 20 times, making it appear that much closer than your unaided vision allows. In 35mm photographic terms, we deem the 50mm lens "normal"—presenting a view similar to that seen by the naked eye. Hence, a 20X scope can be considered comparable to a 1000mm lens.

With a variable (zoom) eyepiece, a 20X to 60X range is possible, although the more modest magnification offers a brighter image and wider field of view. Whenever you double magnification, image brightness is reduced to one-quarter, becoming fairly dim beyond 25X. This is why spotting scopes with 15X to 25X eyepieces are most useful for finding and tracking elusive quarry.

Depth of field remains adequate for scanning a broad area or for photographic purposes at this level. Indeed, these scopes can take the place of an expensive super-telephoto lens, mounting onto a 35mm SLR with suitable accessories. If you occasionally need a 1000mm or longer lens, consider this alternative, appropriate for prints up to 8x10 when used with care.



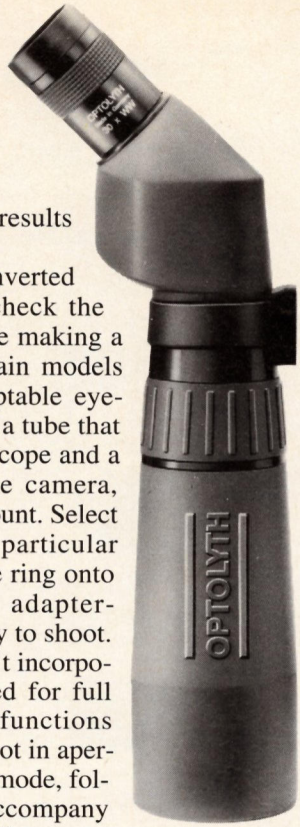
Swarovski AT80 with camera adapter

High-Magnification Photography

Because of our natural body tremors, a tripod, car window mount or a shoulder mount/gun stock is essential for a steady view without movement. Then, too, any long focal length compresses atmospheric haze, reducing image contrast and apparent sharpness. Shoot in early morning for the best results and for maximum image clarity.

Not every scope can be converted into a photographic lens, so check the manufacturers' brochures before making a purchase. You'll find that certain models will accept a 25X camera-adaptable eyepiece. This typically consists of a tube that screws into the housing of the scope and a T2-ring that bayonets onto the camera, whether manual or autofocus mount. Select the one designated for your particular brand and type, and bayonet the ring onto the camera. Then, add the adapter-equipped scope and you're ready to shoot.

Because the T2-mount doesn't incorporate all of the interface required for full automation, most electronic functions won't operate. Still, you can shoot in aperture-priority or metered manual mode, following the instructions that accompany the devices. These will vary from one camera to another, so take time for study to avoid frustration.



Optolyth 65mm TBG Scope

Scopes As Lenses

Let's consider a few of the adaptable spotting scopes beginning with some of the top-rated as designated by birding magazines. First is the Nikon series of fieldscope zooms. Nikon offers two 20X to 45X models with standard high-grade optical glass and another duo that incorporates an ED element. Common in Nikon's professional telephotos, extra-low dispersion lenses will focus all light waves on the same plane for

TY TELEPHOTOS

Ultra-long lenses are a major investment. By adapting a high-quality spotting telescope, you can get good results for less and carry only one lens for locating and photographing wildlife.

BY PETER BURIAN

Optolyth 65mm TBS Scope

a high-resolution image with excellent color fidelity, resolution, clarity and contrast. With all three, a large 60mm primary or "objective" lens offers great light-gathering ability.

You'll need a #7770 photo attachment to convert any of these fieldscopes into an 800mm *f*/13.3 lens, for Nikon cameras only. Not merely a connector tube, this optical unit (comprised of four elements in four groups) will maintain photo-quality results.

For a scope that's virtually impervious to shock and the elements, try the Swarovski AT80 or ST80 with exceptional mechanical and optical components. Its large, 80mm-diameter objective lens provides a brilliant image and impressive sharpness thanks to computer-aided optical design. Preserve the memory of wildlife encounters on film using the camera adapter and a T2-ring. This observation scope then becomes a quick-focusing, 1100mm *f*/14 extreme telephoto with built-in lens hood to assure optimum image contrast.

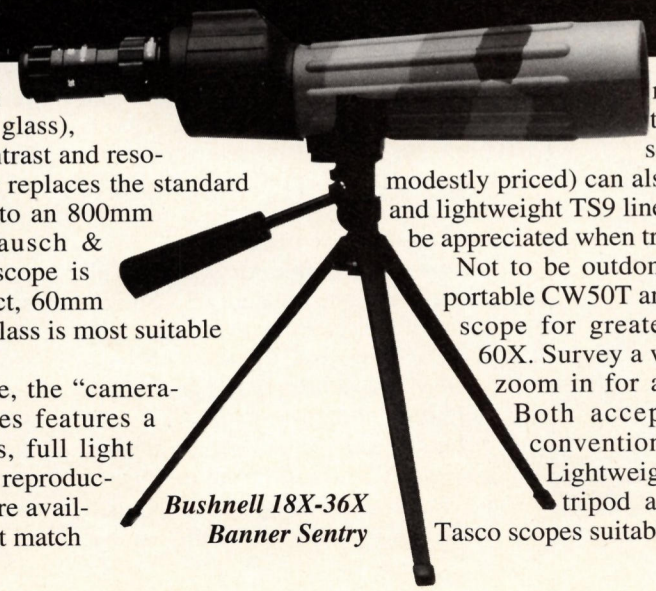
Bausch & Lomb, a name synonymous with optical quality, recommends its Elite scope with a 77mm objective lens for photography. With ED Prime (extra-low dispersion glass), you'll notice improved color, contrast and resolution. A high-resolution adapter replaces the standard eyepiece, converting the Elite into an 800mm *f*/11 super-telephoto lens. Bausch & Lomb's Bushnell Spacemaster scope is also convertible, and the compact, 60mm objective model with ED Prime glass is most suitable for photo applications.

In an Optolyth spotting scope, the "camera-adaptable" premium HDF series features a fluorite lens for high sharpness, full light transmission and accurate color reproduction. Interchangeable eyepieces are available in various magnifications that match the fine quality of the wide, 80mm objective lens.

Celestron Classic C-8

Moving to the Kowa models, we find one-finger focusing operation to minimize barrel movement. The TSN series with large, 77mm objective lenses provide bright, sharp images even on cloudy days. In the Prominar model, the optical system includes a fluorite element—this controls chromatic aberration for outstanding performance. Add one of the two photo adapters for 800mm or 1200mm reach for high-magnification photography. The TS series spotting scopes (more modestly priced) can also be adapted. The compact and lightweight TS9 line with 50mm objectives will be appreciated when trekking long distances.

Not to be outdone, Tasco offers the highly portable CW50T and the 9002T Zoom spotting scope for greater versatility up to a full 60X. Survey a wide field at low power and zoom in for a close look in an instant. Both accept the 9002T-mount for conventional or autofocus cameras. Lightweight design, coated optics and tripod adapter fitting makes these Tasco scopes suitable for field photography.



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Naturally, you'll find other brands and models such as those from Zeiss, Orion and Celestron, or the Redfield Regal spotting scope. Unlikely to replace the 600mm and 800mm super-telephotos with matched 1.4X teleconverter for professional pursuits, spotting scopes deserve consideration by the amateur photographer. With a tripod and ISO 400 film, satisfying results are possible without a second mortgage on your home. Choose a model based on your budget, demands for optical quality and portability or ruggedness. The more expensive models will withstand the rigors of the most extensive field use, while some are fully waterproof and useful in extreme conditions.

Sinar Foba Superball

Shoot For The Moon

Ever since the visit of Halley's Comet in 1985 and '86, star gazing has become a more popular hobby. The galaxies, planets, stars and other celestial bodies present an irresistible photo opportunity. All it takes is an astronomical telescope suitably equipped with camera adapter to begin. Capable of higher image quality than a telephoto lens with multiple doublers, some of this equipment can also be acquired for a smaller investment. With most telescopes, magnification can be varied by exchanging the eyepiece. As power increases, however, image brightness and sharpness decrease rapidly. Hence, stick with 80X or lower for photography unless you have access to one of the massive telescopes such as the Observatory or Superior series from Parks Optical. Those with large-diameter objective or aperture offer a brighter view, useful far beyond 80X. Price becomes a prohibitive factor for all but the most dedicated astronomer. An optical system of even 2032mm, like the Celestron Classic C-8, will produce frame-filling images of the moon for dramatic impact.

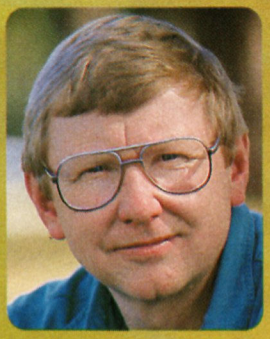
Photo adapters and T-mount rings are readily available from the manufacturer or accessory catalogs such as Orion's, which list "universal" devices, often for less than $50. Suitable for nearly all 35mm SLRs, these make astrophotography possible for anyone who already owns a high-quality telescope.

Most of the Celestron models, for example, accept the standard SC camera adapters. Some Swift products call for their own #859PA accessory—a photo adapter plus appropriate T-mount. Use it on the Swift #854 Catadioptric (with mirrors folding the light path for a compact barrel) for magnification of 133X, 67X or 32X on demand.

The Bausch & Lomb 800mm mirror lens is a dual-purpose product: a powerful 25X and 42X viewing telescope and a compact super-telephoto lens when mounted on a camera. Multi-coated optics offer satisfactory image quality, while close-focus ability of nine feet makes this a versatile lens for a variety of pursuits. If you prefer a conventional telescope, consider the 15X to 60X Discoverer with tripod-mounting base. This model adapts readily to most 35mm cameras.

Eyepieces that allow other photographic lenses to be used as a telescope are also available from some companies. Although Nikon's excellent eyepiece attachment is no longer manufactured, many are still available in good condition through used camera dealers. Leica currently produces the Telescope-Ocular Leica to-R attachment that converts any Leica

(Cont'd on page 74)



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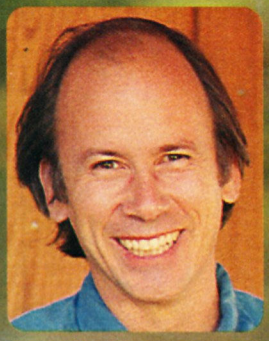

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View From Everest

Climbing the world's highest peak is an arduous task. Trying to make artistic photos in the process takes the challenge to a whole new level.

TEXT AND PHOTOGRAPHY BY NED GILLETTE

On May 29, 1953 at 11:30 a.m., Sir Edmund Hillary took a historical snapshot. In the picture, you see a man taking the final step to the top of a triangular lump of snow. His arm and ice axe are raised in triumph. Framed by blue-black sky, he seems at the edge of the known world, of human limits. The man is Sherpa Tenzing, Hillary's climbing partner, and they are the first men to ascend Mount Everest.

As I considered Hillary's summit photograph, I wondered: "What lies below the bottom edge of that poignant snapshot?" I had seen many pictures of the lower and middle parts of the classic Hillary route on Everest—Basecamp, the Khumbu Icefall, the Western Cwm, the Lhotse Face, the South Col—but I couldn't recall see-

ing much that portrayed the landscape of the summit pyramid. Why not? It occured to me that we think of getting to the top of Everest in purely human terms—all sweat and agony, danger and conquest. There must be more. It must be beautiful up there at the edge of space.

A lot has changed since Hillary and Tenzing's climb in 1953. Today, more

EVERYTHING SEEMED PURE AND UNTOUCHED. *Gillette found this scene (spread photo) enchanting: "It was magnificent to be up so high."*

Nikon FM2, Nikkor 28-50mm at 28mm, Kodachrome 64, 1/250 sec. at *f*/11

ON THE SUMMIT, *everyone passes around the camera to make the hero shots (above inset, left). The feeling is wildly, then smoothly, elated.*

Nikon FM2, Nikkor 28-50mm at 28mm, Kodachrome 64, 1/250 sec. at *f*/11

ON THE SOUTHEAST RIDGE *and racing to get to the top before the afternoon storms set in (above inset, right). The light is so intense that goggles can be removed only briefly to make photos.*

Nikon FM2, Nikkor 28-50mm at 28mm, Kodachrome 64, 1/250 sec. at *f*/11

Clockwise from facing page, top:

AFTER CLIMBING IN THE DARK for four hours, the team saw these deep lavender hues at 5:30 a.m. while looking southwest over the Nuptse Wall into the Khumbu Valley.

Nikon FM2, Nikkor 28-50mm at 28mm, Kodachrome 64, 1/25 sec. at *f*/4

ATOP THE HILLARY STEP, the group catches its breath. After huffing and puffing up the Step, Gillette was unsteady and found it a dicey proposition to balance at the edge of the precipice and think about photography simultaneously.

Nikon FM2, Nikkor 28-50mm at 28mm, Kodachrome 64, 1/25 sec. at *f*/16

MONTHS BEFORE THE MOMENT, this shot of the long ridge ending at the South Summit was planned. Gillette had to sprint to catch the leaders in order to capture the image.

Nikon FM2, Nikkor 28-50mm at 35mm, Kodachrome 64, 1/250 sec. at *f*/11

FINISHED, FROSTED AND DONE IN, team member Cham is photographed at Camp IV with the last frame of the last roll of film.

Nikon FM2, Nikkor 28-50mm at 50mm, Kodachrome 64, 1/25 sec. at *f*/5.6

than 400 people have reached the summit of Everest. I was betting that the high terrain of unspoiled rock and snow must be the same as during the first ascent, and so, too, the magnificent vistas. Could I make it to the top? Then, while struggling upward in a nearly oxygenless environment, could I keep my wits about me and photograph it with a measure of artistry? I decided to find out.

In the spring of 1992, I joined an expedition organized and led by two New Zealanders. Once in Nepal, I decided to abandon my usual storytelling approach to expedition photography. Everest has been done and redone; we all know the story. Instead, I focused on the landscape, specifically that above 27,500 feet, and the people performing in that high landscape.

In human terms, my plan for a successful climb and shoot depended on more than just myself. Our climbing team must be strong and in position to take advantage of any window of opportunity—that one lucky day to go to the top. This would occur when the approaching monsoon lifted jet stream winds off the summit pyramid and opened Everest.

We established our basecamp in late March, then spent six weeks ranging up and down the lower slopes, methodically acclimatizing and moving equipment upward with the help of a team of Sherpas, Tibetans who are famous as mountain climbers. Although I was focusing on the last 1500 feet of Everest, I had some curious photographic encounters along the way.

One extremely cold day, we made a test run up to 24,000 feet. Someone's crampon (gloved ice ax) came off while we were climbing a steep slope, and as he tried to wrestle it back on, I saw a picture that spoke of the unexpected as one of the risks in mountaineering. I was dog-tired, however, and knew that if I took off my mitts, I might get frostbite. Then, almost automatically, I was barehanded and hauling out my camera, focusing as fast as I could. It was freezing. My subject looked up and growled: "If you take that picture, I'll kill you."

Then there was my conversation with a European woman named Ingrid. We were discussing the best

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lenses to use while climbing:

"In my experience," I explained, "relatively wide-angle lenses usually work best. You're often in precarious positions where you can't move back from your subject."

"No," she said instantly. "My zoom telephoto is best. I get the whole panorama."

"Telephotos usually aren't known for bringing home the panoramas," I suggested. "There again, a normal to wide-angle lens works pretty well."

"No. No. Telephoto is best."

By late April, we had established Camp IV on the South Col at 26,250 feet, the edge of the so-called "death zone." Everything was set to go for the top, except the weather, so we retreated and waited. Two impatient and ill-equipped Indian climbers tried to go high, and the mountain killed them.

Finally, conditions seemed right, and we climbed back up to the South Col. The weather deteriorated as a half-blizzard raged. Night fell, and we dozed in cramped frostiness. "The stars are out," someone said suddenly, startling us. It was 11 p.m. Using headlamps, we wrestled into readiness. Nobody spoke—it seemed that words might hex the weather. I've always dreaded these midnight launches, but here on Everest I was psyched.

At 1 a.m., we crawled out of our tents—nine westerners and five Sherpas. It was May 12, pitch-black and cold. We clipped on our crampons.

I hung a single Nikon FM2 fitted with a compact Nikkor 28-50mm *f*/3.5 zoom lens around my neck, then tucked it inside my climbing suit. One camera, one lens—a simple system to use when I got simple-minded, even stupid, while climbing at extreme altitude. The wide-to-normal zoom would allow me to cover the panoramas I hoped to get on the upper mountain and to compose different perspectives without changing lenses. The camera, powered by a new battery, was loaded with Kodachrome 64—again, foolproof. After the sun was up, I knew that leaving the speed and aperture set on 1/250 sec. at *f*/11 would make the correct exposure. I tucked three additional rolls of film in my pocket.

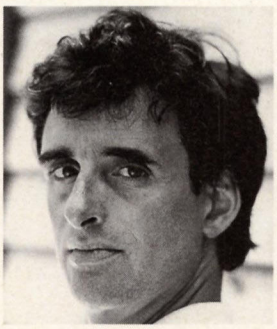
We hefted our summit packs. Each held two 6½-pound titanium oxygen bottles. Breathing supplementary "O's" gave us extra strength, aided clear-thinking and helped keep our hands and feet warm. We started up. My world was reduced to placing footsteps in a circle of headlamp illumination. The summit, cloaked in darkness, was a mile away—3000 feet above. Up we went like a mobile string of Christmas lights. Climbing in the dark was spooky.

Footsteps moved the clock. It was head-down work. Finally, hours after starting, I detected a slice of brightness on the eastern horizon. Light! I perked up and visualized the first photograph and forgot my fatigue.

The dawn, like a curtain going up on the greatest show on earth, now revealed the high Everest landscape in stunning beauty. The sky metamorphosed from black to ink-blue to blue-purple. For the first time, I stopped and looked down. The rest of the Himalaya was already below us. It was incredible to be so high and not even at the top.

I took off my mitts, unzipped the front of my climbing suit and fished out the FM2. Almost instantly, the windchill turned the camera into a block of freezing metal that burned my fingers. This cold was desperate. I took my first picture of the summit day.

Every photograph that followed, all taken while I was cold, fatigued or partially befuddled by high altitude, demanded automatic skills that I'd learned during past expeditions, as well as a hefty measure of good luck. I discovered once again that picture-taking lifted my spirits and cleared my head. **OP**



Ned Gillette *is an adventurer who specializes in difficult expeditions and the photography to document them. Currently, he is following the Silk Road on an 18-month trip with his wife Suzi (Patterson, former U.S. Ski Team downhiller) and a caravan of camels.*

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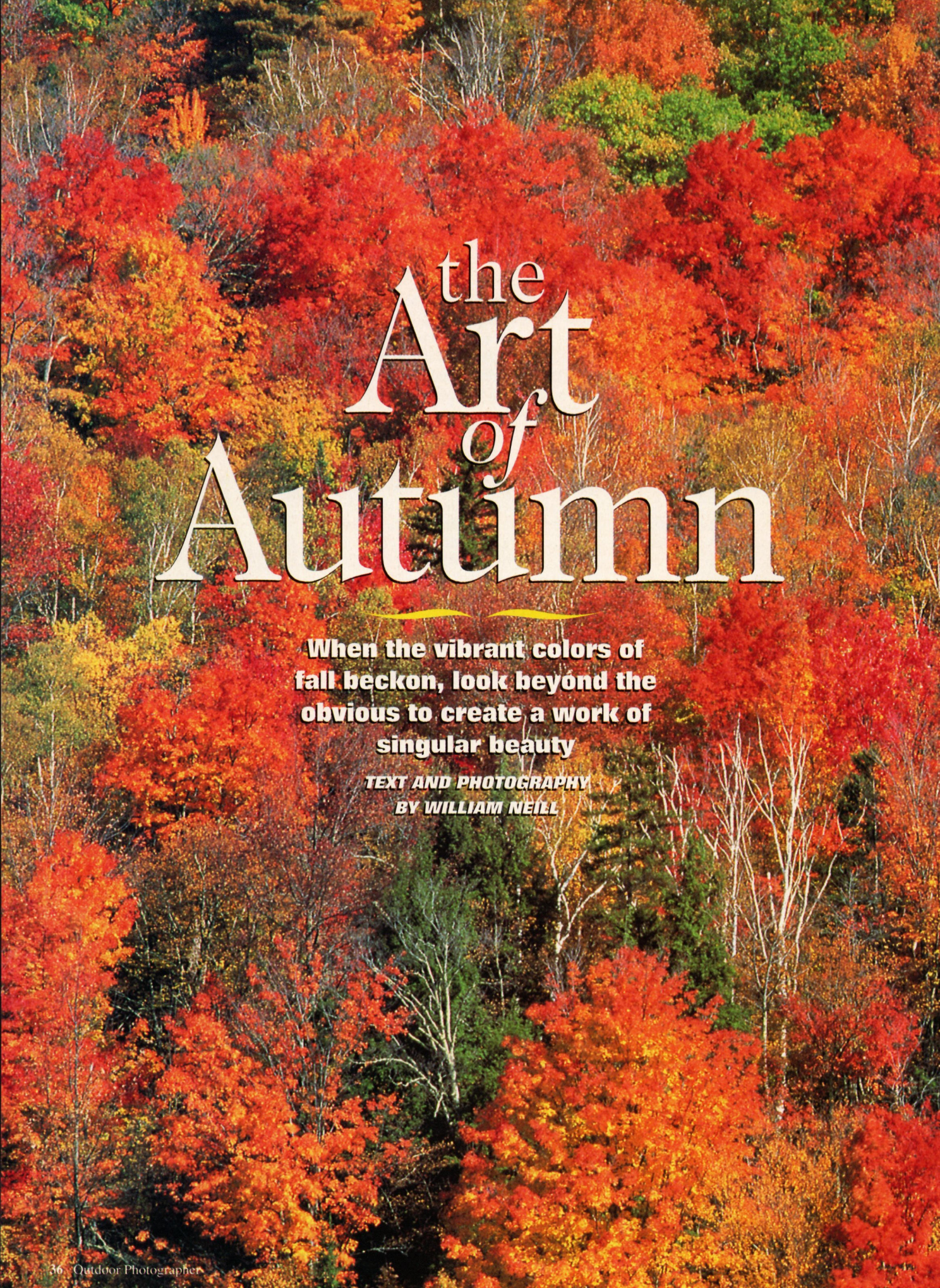
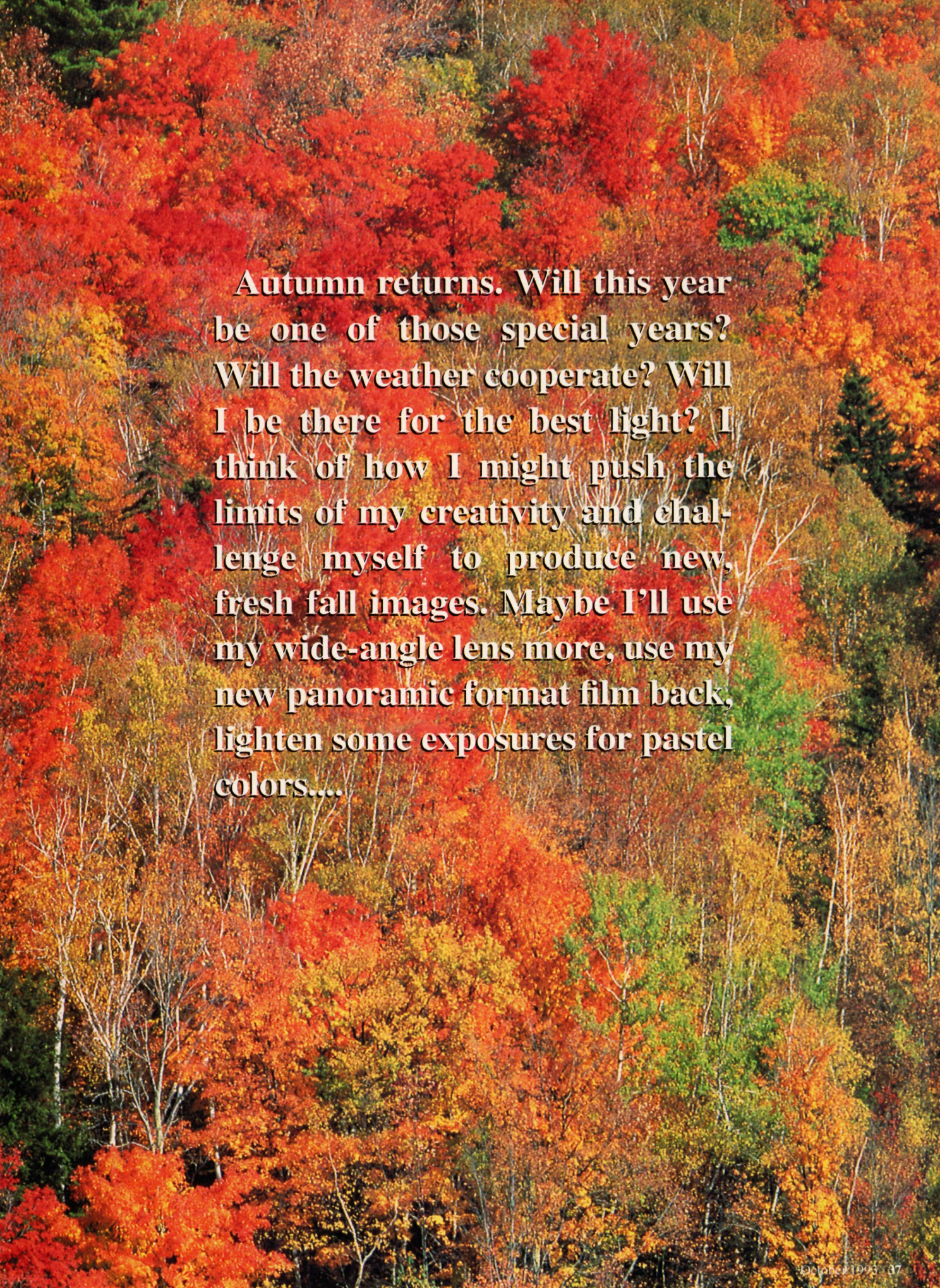


the Art of Autumn

When the vibrant colors of fall beckon, look beyond the obvious to create a work of singular beauty

TEXT AND PHOTOGRAPHY BY WILLIAM NEILL



Autumn returns. Will this year be one of those special years? Will the weather cooperate? Will I be there for the best light? I think of how I might push the limits of my creativity and challenge myself to produce new, fresh fall images. Maybe I'll use my wide-angle lens more, use my new panoramic format film back, lighten some exposures for pastel colors....

AUTUMN HILLSIDE,
Green Mountain National Forest, Vermont (opening spread). Neill used his 2¼ roll-film back and a telephoto view camera lens to isolate this section of trees. The combination gave him the equivalent of a 200mm lens on a 35mm camera. A polarizing filter was used to intensify the colors, and the mixture of colors accentuated the pattern of the trees.

Wista 45D view camera, 360mm Nikkor-T with Calumet C2N roll-film back, Fujichrome Velvia 120, polarizing filter

FALLEN MAPLE LEAVES,
Acadia National Park, Maine (above, right). A strong storm had pounded the Maine coast for several days, knocking down much of the best leaf color. During a break in the downpour, Neill photographed these brilliant red leaves, including the base of the tree, to create an "intimate landscape."

Wista 45D view camera, 150mm Schneider APO-Symmar, Polaroid ProChrome 100D

AUTUMN LEAVES,
Fern Springs, Yosemite National Park, California (below, right). A windblown fall rain had just passed through Yosemite, covering the ground with autumn color. A polarizer helped to saturate the color and eliminate reflections on the water.

Wista 45D view camera, 210mm Rodenstock Sironar, Ektachrome 64

YELLOW MAPLES,
Green Mountain National Forest, Vermont (left). This stand of yellow maples was found down an old dirt road. Mist softened the light, but it was bright enough to backlight the leaves. Neill exposed the film a bit lighter than normal to give the effect of the light "glowing" through the forest, and the yellow of the leaves became soft and pastel.

Wista 45D view camera, 150mm Schneider APO-Symmar, Polaroid ProChrome 100D

The art of autumn photography is a lesson in the principles of composition, the use of light, sensitivity to the ways of nature and the creative process. There are many things to consider before making an image. First, and most importantly, I ask myself, "What moves me here?" With a great deal of practice, one learns to react seamlessly and intuitively to an inspiring subject. As you begin to learn your craft and gain more experience, you may wish to consider the question more consciously. Photograph what moves you deeply—passion is at the heart of art!

Color is often what first catches my eye in autumn. I look to see how the greens balance with the reds or the oranges with the yellows. Some colors complement each other, such as the warm tones of red leaves on wet, brown mud, while some colors help bring out other colors more strongly, such as the contrast of red leaves on green grass. I also look for monochromatic color situations in which subtlety prevails. In any case, you should balance the colors within the frame as you would lines or forms.

Good color, however, is worthless without good composition. I look for lines, shapes or forms that have strong interest graphically and that can be combined effectively with fall colors in my frame. Excellent design is essential. I pay close attention to the exact position of the camera when the image is made—where to stand or set up the tripod and the height of the camera. A change of a few inches to the left or right, up or down, can make a huge difference in a composition. Watch how objects in the viewfinder separate out or run together as you change positions. A strong composition is rarely made without a good deal of moving and fine-tuning of the camera position. If the composition isn't working out, I keep searching for the place where the design and color elements work together. As often as not, I decide not to make an exposure. Walking away from a situation that doesn't work is an important discipline.

Although I use no set rules of composition, there are some design elements that I'm aware of when making a photograph. I watch the edges of my frame so that important lines of branches and trunks aren't cramped or run off the edges. I try to be aware of the entire frame area, not just the subject within the frame. The diagonal lines of branches can help create a flow in the composition, while objects that are centered in the frame tend to be static. Take the time to try different placements to see how all parts of the image fit together. A tree placed off-center, even out to the edge, can give you a more dynamic photo. As the photographer, you need to trust your own judgment in sensing the balance of the image. Remember, sometimes the best images break all the rules.

I look for background and foreground objects that might be distracting or out of focus. I may find an interesting group of autumn leaves on a branch, but if the background is cluttered, my subject won't come across clearly on film. I look for simple backgrounds such as the green of conifer trees. Use of shallow depth of field can help to simplify the photograph by putting the background out of focus. I normally use maximum depth of field, but I don't often make images that have distinctly separate subject and background. The background—the spaces between, in front of or behind the subject—are all part of the image, and I'm careful to make sure all elements work together.

The photographs reproduced here were made with normal focal length lenses or longer. I use my 150mm and 210mm view camera lenses for the bulk of my forest floor details as well as for broader scenes. These lenses are roughly equivalent to 45mm and 65mm on a 35mm format. I use my 360mm telephoto (105mm on a 35mm format) quite often to select out details and compress the design elements of a distant subject such as a colorful hillside across a field. I've also used the telephoto in the woods to emphasize a dense pattern of trunks or to frame a few leaves or branches.

I don't use my wide-angle lenses very often since I usually try to isolate details and patterns. Wide-angle lenses do work well in tight situations, however, especially in the forest where depth of field and clutter is a concern. The wide-angle lens will spread out the density of trees and the greater depth of field allows you to make sharper images with shorter exposures. Movement is less amplified in the case of wide-angle lenses.

A great photograph also needs great light. The light that I prefer for autumn images is what I call soft light—the even, shadowless light found on overcast, rainy or foggy days or in shaded areas on sunny days. The even lighting lessens the contrast problems that arise when the subject is directly lit by sunlight. Forest scenes are especially difficult to render well in direct light. Soft light allows the detail and color of a scene to come through. Autumn rains that soak the forest also amplify the colors, and foggy conditions add a sense of mystery and muted color.

On sunny days, I also enjoy working with backlit or sidelit subjects that can give a wonderful luminosity to leaves and trees. The edges of shadows are great places to photograph on sunny days. Look for trees or branches with deep shadows behind them. The contrast in light can be used to isolate the color and the pattern of branches and leaves against a dark background.

There are no fixed rules about what constitutes good light—I've made fine fall images in the middle of a sunny day. I don't close my eyes when my "preferred light" isn't prevailing. On the other hand, it benefits the photographer to be very selective about light. That magic light, and the persistence and perceptiveness to seek it out, is often what separates the professional from the amateur.

Many of the images reproduced

AUTUMN FOLIAGE, Green Mountain National Forest, Vermont (left). Neill was set up on the edge of a pond, making images of a colorful hillside reflecting in the water. The fog lifted as the sun rose. As he scrambled for more film, he noticed this group of trees. They were in full shade and wet from the night's mist, and the resulting low contrast made figuring the exposure very simple.

Wista 45D view camera, 150mm Schneider APO-Symmar, Polaroid ProChrome 100D

MAPLE TREES IN FOG,
Acadia National Park, Maine (above). Early-morning fog settled in a small grove of maple trees next to a marsh, and a light but troublesome breeze required opening the aperture for a faster shutter speed. Neill focused on the important branches and trunks in the composition and let the background go out of focus.

Wista 45D view camera, 360mm Nikkor-T, Polaroid ProChrome 100D

RED MAPLE LEAVES AND MUD PATTERNS,
Zion National Park, Utah (right). The runoff from a thunderstorm formed great ripple patterns. Red maple leaves provided a colorful accent, and the soft light added clarity of detail and color saturation.

Wista 45D view camera, 210mm Rodenstock Sironar, Polaroid ProChrome 100D

(Cont'd on page 44)

Field Checklist For Fall Colors

Get the most from your fall shooting with these tips on equipment, film and technique gathered from our staff and contributors

STAFF REPORT

Best Films: Use the slowest films possible to capture the brilliant color and detail of autumn since they have the best color saturation and the finest grain. Some films capture reds and yellows better than others. Recommended slide films include Kodak Lumiere 100X, Kodak Ektachrome Elite 100, Fujichrome Velvia, Fujichrome 50D, Fujichrome 100D and Agfachrome RS 50 Plus. For color negative films, try Fuji Reala, Fujicolor 100, Kodacolor Gold 100, Kodak Ektar 25 or Agfacolor Ultra.

Cloudy Days: Clouds can be your friend, and by reducing contrast and glare, they allow films to faithfully capture the rich variety of autumn colors. It's best to shoot on days when a thin white veil of clouds hides the sun. As long as the overcast remains generally white, it allows soft light to reach the ground. On these cloudy days, keep the sky out of frame to avoid the washed-out look that comes with overcast skys.

Shadow Blues: A good deal of the detail of fall is shot in the shade of the forest canopy or individual trees. At these times, indirect sunlight—light coming from the blue sky rather than directly from the sun—is the light source illuminating subjects on or near the ground (lower branches, undergrowth, fallen leaves). This indirect light contains a great deal of blue light. While your eyes naturally compensate for the color bias, film will pick it up. Reds and yellows will appear on film as cooler or with less brilliance. The green of foliage will be darker, more like blue-spruce than grass-green. To correct for this, use warming filters from the 81 series. An 81A can be left on your lens almost like a skylight filter during autumn leaf season, and when the shadows become more ominous, an 81B or 81C will bring the colors back to life. The Tiffen "Enhancer" is another good filter for fall colors, especially when the leaves are in the red end of the spectrum.

Stop Down: Use the smallest aperture possible (largest *f* number) for the greatest depth of field. The beauty of many fall scenes can be attributed to the expansiveness of color in the woods, a quality that's best recorded by exposure settings that maximize depth of field. If you're accustomed to keeping your camera set on "program," you'll want to select "aperture-priority" and the smallest aperture on your lens. Some automatic cameras have special program or creative card modes that emphasize depth of field. Be sure to use a tripod since the slow shutter speeds dictated by these small apertures will necessitate a steady base for your camera.

Get Close: Wide-angle lenses in the 20mm to 35mm range work very well for close-up subjects. They focus closer and provide more depth of field than longer lenses, allowing you to get close to your subjects while retaining good sharpness in the background. This provides a nice change of pace from telephoto and macro lenses that tend to create images with out-of-focus backgrounds and little depth of field.

Reciprocity Failure: When using small apertures and slow films (especially in deep shade), shutter speeds often reach a full second or longer. With exposures this long, a film's response to color can change appreciably. This can require longer exposure than dictated by your meter and color-correcting filtration to render colors accurately. As an example, Kodak's Ektachrome Elite 100 requires no correction between ½ sec. and 1/1000 sec. Between 1/1000 sec. and 1/10,000 sec., Kodak recommends use of a CC05Y (yellow) filter to correct a minor blue shift. Exposures from ½ sec. to 10 seconds require a half-stop exposure increase and a CC05B (blue) filter. On the other hand, Ektachrome Lumiere 100 requires no correction between ½ sec. and 1/10,000 sec., but uses the same filter and exposure change as Elite between one and 10 seconds (a CC05B filter and a ½-stop increase). Consult the film data sheet for manufacturer's recommended exposure and color correction factors for your specific film. Anytime you're shooting in situations involving exposures beyond one second, bracket with a bias toward overexposure.

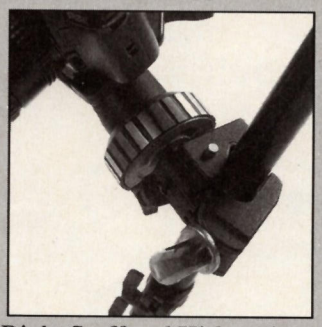
Saturated Color: The fog and rain that come in the fall are not a hindrance to good photography—the opposite is often true. After rain or damp fog have moistened autumn leaves, there's a great opportunity for rendering spectacular colors, especially if the clearing storm or dissipating fog has left a residual overcast to diffuse the sun. If nature hasn't cooperated, carry a spray bottle filled with water to dampen a few leaves, especially those in the foreground of your composition. Check for reflections by rotating a polarizing filter, then use the filter on your camera to remove the reflections. The polarized images will generally show better color saturation.

Getting Color Prints Made: The reddish hues of autumn can trigger an automatic correction in the machines used to make color prints from negatives. Labs call this reaction "subject failure." The reds and magentas in the leaves make the machine believe your film is old or fogged, and the machine compensates by adding cyan (blue-green), which results in leaves that are drab and bluish-gray. Some labs (Dale Color Labs, for example) spend a great deal of time adjusting the programs on their processing equipment to avoid this. To determine whether subject failure has killed the color in your photos, check a neutral color in the scene, such as tree bark, for signs of a blue or green tint. If the tint is there, ask the lab to remake the prints with a neutral balance.

GEAR TIPS: GETTING CLOSE TO FALL SUBJECTS

• Extension arms on your tripod make it easier to get your camera close to inconveniently situated subjects. Many manufacturers offer extension arms like the Bogen unit shown. Because the extension arm shifts the tripod's center of gravity off-center, use a sand bag, your camera bag or some other weight to prevent tipping.

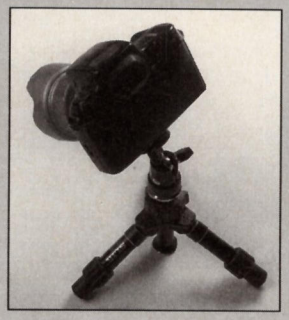
• The Bogen universal clamp can be used to attach your camera to the leg of your tripod for a close-to-the-ground perch. The clamp can also be affixed to other supports like handrails, tree branches and sign posts. Be careful not to damage property or injure the tree when attaching the clamp.



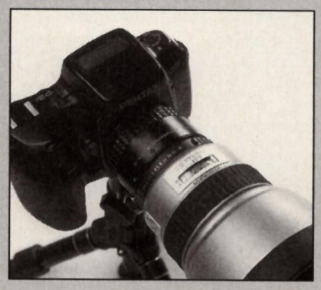
• Focusing rails allow fine-tuning for composition with close-up subjects without having to move the entire tripod. Nikon's focusing rail works well, as do the units from Really Right Stuff and Mike Kirk Enterprises. Really Right Stuff and Kirk make supports that provide additional, precise camera movement for macro shooting.

• Close-up filters offer an easy and inexpensive tool for increasing the close-up capability of your favorite lens. They can also enhance the rather limited macro-focusing capabilities of many popular zoom lenses. No exposure compensation is needed with the filters, so depth of field can be kept at more optimum levels in low-light situations. The best close-up filters are made with two lens elements; these include the Nikon 3T, 4T, 5T and 6T models and the Canon 500T. These filters can be adapted to most lenses with the use of stepping rings.

• The Slik Mini Pro tripod is sturdy but lightweight. It's ideal for the outdoor occasions when you need a tripod, but don't want to carry a full-sized unit into the field. The Mini Pro can be used at ground level, placed on other solid support or can be pressed firmly against a vertical surface such as a tree or wall. By pressing firmly and steadily and using a cable release or self-timer to trip the shutter, exposures of several seconds can be made with excellent sharpness.



• Teleconverters are useful for macro shots since they increase magnification, but keep minimum focusing distance the same. For example, a 100mm lens that has a minimum-focusing distance of three feet becomes a 200mm lens when used with a 2X teleconverter, but maintains its three-foot minimum focusing distance. This effectively doubles the magnification of the lens but at a cost of two *f*-stops of exposure. **OP**



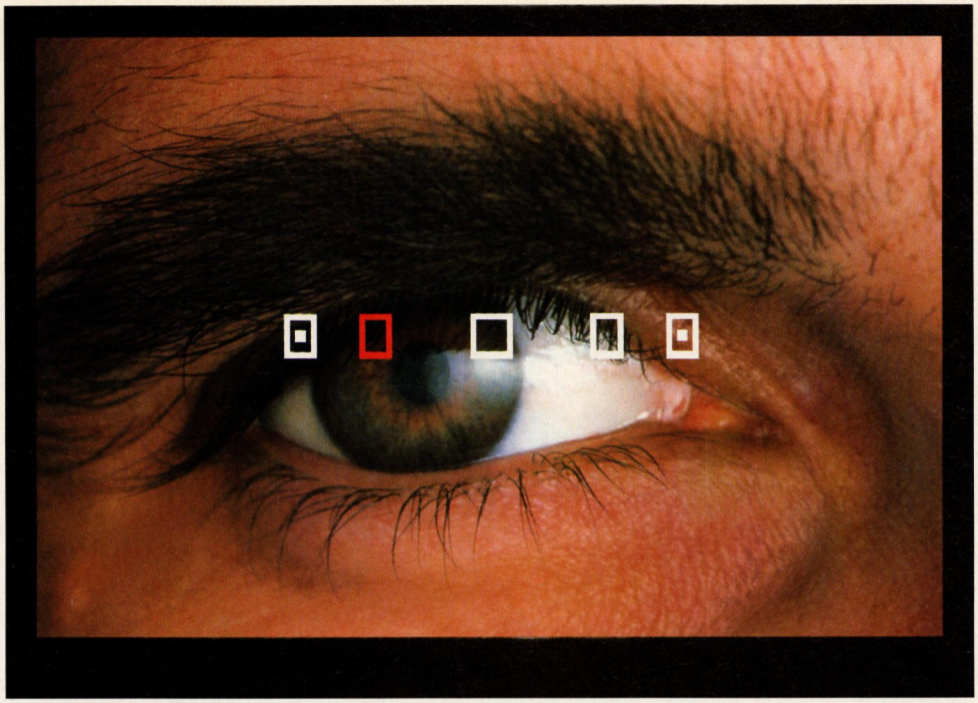
ART OF AUTUMN

(Cont'd from page 42)

here were made with Polaroid 4x5 film. The film is rated at 100 ISO and is essentially Fujichrome 100. Although I'll usually try to use a 50 ISO film, the 100 speed often comes in handy on breezy days in the fall. With my 4x5 camera, I'm forced to use very slow shutter speeds. Using 100 ISO film is a small price to pay for sharp leaves and branches. Given still conditions, I use Velvia rated at EI 40. I look forward to seeing the new Kodak Lumiere films in 4x5 Ready Load packets.

Windy days can be a major obstacle in the fall. I've waited for an hour or more for leaves on a tree to stop blowing if I feel that the image is worth it. Watch carefully for motion. You may have to take many frames of one composition to get one sharp image on a windy day. The closer the subject, the more motion will show, so pay close attention to your choice of shutter speed. If you want maximum depth of field and you're using *f*/16 or *f*/22 with a tripod-mounted camera, exposure times on an overcast day can be several seconds. When I use my view camera, my average exposure time is 15 to 30 seconds, so conditions need to be reasonably still. If there is movement during exposure, I take another. With good timing and persistence, I can make my exposure during calm periods.

(Cont'd on page 78)



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FALL In The WEST

TEXT AND PHOTOGRAPHY BY LINDE WAIDHOFER

In the Rockies, each of the four seasons is unique and beautiful in its own way. But if I had to choose my favorite, it would be autumn. Short but spectacular, with cold nights and warm, liquid gold days, it feels as if you have entered a magic zone, and the source of that magic is the aspens. Aspen forests play the same role in the Rockies that maples do in New England, transforming the landscape, setting it on fire, making familiar places strange, new and surreal. Every year, I discover and shoot new autumn fantasies, and every year, favorite stands of aspen turn color on a slightly different timetable with different effects. In the San Juan Mountains of southwestern Colorado, the last two weeks of September and the first week of October are typically the peak period for spectacular color displays.

***LONE ASPEN** among dense evergreens (this page). Aspen trees often colonize burnt areas after a forest fire and then are gradually replaced over decades by shade-loving evergreens like these spruce and fir. This lone survivor of an earlier aspen forest is backlit and glows like a torch among its dark neighbors. Aspen leaves are marvelously translucent when back- or sidelit. Their vivid gold can turn dull and lifeless when frontlit.*

Nikon F3 on a tripod, Nikkor 300mm *f*/2.8 ED-IF, Fujichrome 50, 1/250 sec. at *f*/8

Clockwise from top:
***POLYCHROME ASPEN STANDS** near Kebler Pass. These trees are part of the largest self-sustaining aspen ecosystem in Colorado. This forest is not only a botanical treasure, but the Kebler Pass area holds the most beautiful aspen forest in the Rockies.*

Nikon F4 on a tripod, Nikkor 35-70mm *f*/2.8 polarized, Fujichrome Velvia, 1/60 sec. at *f*/8

***GOLD MOUNTAIN, BLUE SKY.** A 1000-foot high mountainside of solid yellow aspens above Silverton, Colo., forms a pure diagonal against the dark high-altitude sky.*

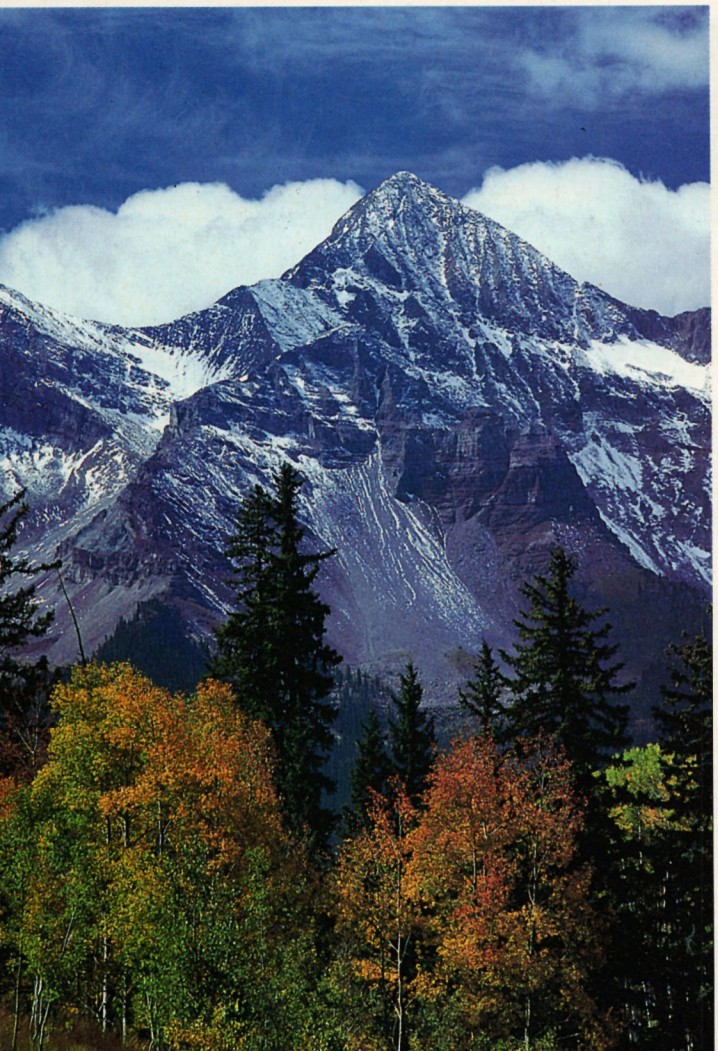
Nikon F4 on a tripod, Nikkor 300mm *f*/2.8 polarized ED-IF, Fujichrome 50, 1/60 sec. at *f*/8

***AFTER THE RAIN.** In late autumn, usually after a few strong windstorms, the forest floor becomes a yellow carpet of fallen aspen leaves. The compositional possibilities seem endless, and it's intriguing the way a large drop of water on a leaf acts as a magnifying glass.*

Nikon F4 on a tripod, Nikkor 60mm micro, Fujichrome Velvia, 1/2 sec. at *f*/32

***WILSON PEAK** from Turkey Creek Mesa near Telluride, Colo. Often, early snowfalls will whiten 14,000-foot summits long before the first leaves fall. This stand of aspens is unusual for its reddish tones—most aspens color in the yellow to gold range. But if one tree turns red, its neighbors probably will, too, since aspens grow in "clone" families from a common network of roots.*

Nikon F4 on a tripod, Nikkor 80-200 mm *f*/2.8 polarized zoom, Fujichrome Velvia, 1/8 sec. at *f*/16



THE BEST BIRDING SPO

Capturing our feathered friends on film can be easy and rewarding if you know where and when to find them

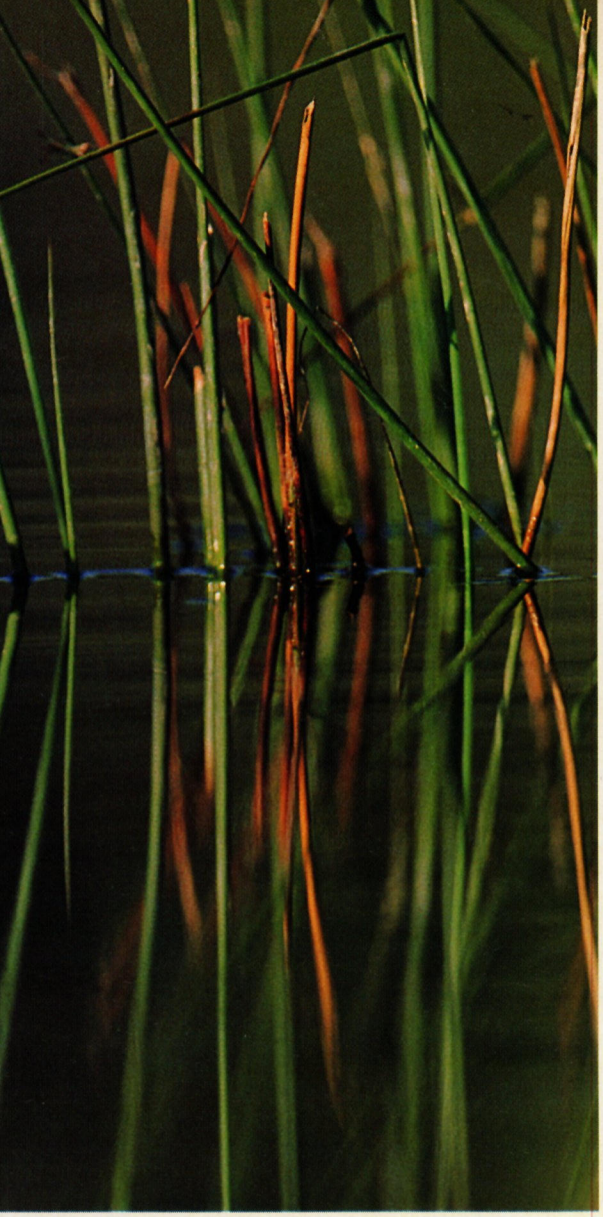
TEXT AND PHOTOGRAPHY BY TIM FITZHARRIS

To photograph birds, you must first, of course, find them. A knowledge of bird behavior, essential to successful photography, will tell you that birds are preoccupied with feeding and reproducing. You'll find them in most abundance where there is ample food and nesting habitats.

Many species like puffins, gannets, snow geese, cranes and herons nest in noisy, active colonies, which are easy to locate. Today most such remaining colonies are found in national wildlife refuges or other protected sites. The government's standard practice is to prohibit photographers access to these prime breeding areas. The best approach is to personally petition the refuge manager for permission to photograph in the restricted areas. He or she will need assurance that your activity won't cause stress to the birds. You'll almost certainly need to use a blind and prove that your field tactics will be non-intrusive. A few samples of previous photographic work and proof of field experience will help your cause. Even then, your request may be denied or you may be directed to an area of the refuge that isn't as sensitive and has fewer birds.

Small refuges that are out of the public eye provide the best chances for special access. Photographing on Native American land is sometimes more attractive. Permission to photograph is usually easily obtained or unnecessary, and the habitat is often unspoiled, rarely visited and rich in birdlife. *Guide to the National Wildlife Refuges* by Laura and William Riley (MacMillan, 1992) is an invaluable resource for bird and wildlife photographers.

The difficulty in photographing solitary nesting species



TS IN NORTH AMERICA

***DON'T GIVE UP.** This redhead drake (above) was impossible to capture on film one evening and practically posed the next morning.*

Canon T-90, Canon 500mm, Fujichrome Velvia, 1/25 sec. at *f*/4.5

***THIS RUFOUS HUMMINGBIRD** (above, right) was captured during a rare moment of standing still.*

Canon T-90, Canon 500mm, Fujichrome Velvia, 1/350 sec. at *f*/4.5

***PERMANENT BLINDS** are built on Machias Seal Island located on the Maine-New Brunswick border. Photographing this Atlantic puffin (right) was just a matter of getting in position and waiting.*

Canon T-90, Canon 500mm, Fujichrome 50, 1/350 sec. at *f*/4.5

is normally not in gaining access to the nesting site, but in actually finding the nest. A formal study of bird behavior and a few field outings with a birding group, especially in the spring, are two good ways to sharpen your nest-finding skills. An excellent and entertaining introduction to bird behavior is *A Guide to Bird Behavior, Vol. I and II* by Donald and Lilian Stokes (Little, Brown & Co., 1983) and another valuable reference is *A Field Guide to Nests, Eggs and Nestlings of North American Birds* by Colin Harrison (Collins, Toronto, 1984).

Although the nesting site is the surest place to find any given bird in the spring, during the rest of the year it's best

***A VARIETY OF BIRDS** can be photographed from this sandbar (above) on Flamingo Bay in the Everglades. Fitzharris carried a blind out to the site in a rented canoe.*

Canon F1, Canon 500mm, Kodachrome 64, 1/350 sec. at f/4.5

***A WELL-PLACED STICK** with a flower added gave this Eastern bluebird (right) a good place to land on the way to the bird box.*

Canon T-90, Canon 500mm, Fujichrome 50, 1/250 sec. at f/4.5

to concentrate photography at the bird's food source. The richest feeding area for many bird species is a saltwater or freshwater marsh. Submerged vegetation provides food for birds and many of the animals that birds eat, like insect larvae, snails, fish and amphibians. More specific feeding spots will also be productive during the appropriate season: fruit trees and berry bushes (songbirds); flower patches (hummingbirds); fish spawning beds (bald eagles, ravens, herons); mud flats (shorebirds); shellfish beds (ducks at high tide, oystercatchers at low tide); carrion (vultures, eagles, crows); and hunting perches (kingfishers, flycatchers).

Many of the great spectacles of birds massed together occur during migration when they convene at an area that provides abundant food and safety from predators. The Platte River in Nebraska; Point Pelee in Ontario, Canada; and Klamath Basin in California are renowned examples.

Following are descriptions of some of North America's birding hot spots, places where photography can become fast and furious at times. Most of them require photographers to remain on established walkways, auto routes and viewing platforms. But here, birds are generally less wary of humans and in such abundance that exciting photography is possible. For the best light and the fewest people, work as early in the day as possible.

Southeastern Arizona

This is my favorite birding area in the United States. Here, the birds are strong-voiced, easily spotted and abundant. The desert areas are spread among various mountain ranges that produce a variety of habitats, which is matched by a diversity of birds. Many species are found only in the Southwest. Local desert specialties are the roadrunner, cactus wren, Harris hawk, white-winged dove, pyrrhuloxia, curve-billed thrasher, gila woodpecker and Gambel's quail. In the mountains (the Chiricahua range is best), you'll encounter new species of birds whenever you gain or lose elevation: brown towhees and acorn woodpeckers in the foothills, black-headed grosbeaks and western tanagers at mid-elevation and mountain chickadees and Steller's jays at the summit to cite a few.

Of special appeal are the many canyons scattered through southeastern Arizona. Due to localized conditions of moisture, elevation and sun exposure, each canyon has its own special blend of plants and birds. You'll want to visit Sabino, Madera and Ramsey Canyons.

Southeastern Arizona is the hummingbird capital of the United States, with more than a dozen species. There are hummer resorts where humans have set up feeders that attract hundreds of birds a day. Any time is good, but late summer rains bring out the wildflowers and bring in the hummingbirds.

The Everglades, Florida

Found at the southern tip of Florida, the Everglades is an extensive, flat, low-lying, sub-tropical region of diverse

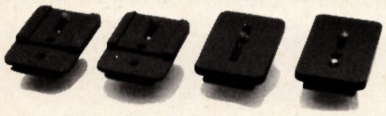
PTARMIGAN RELY ON CAMOUFLAGE for self-defense. This bird (left) was photographed in the Yukon and stayed perfectly still as long as Fitzharris stayed a safe distance away.

Canon F1, Canon 500mm, Fujichrome 50, 1/80 sec. at *f*/4.5

PIED-BILLED GREBES carry their young on their back and return frequently to the nest. This family of grebes in New Mexico (below) was easy to locate by staking out the nest and waiting.

Canon T-90, Canon 500mm, Fujichrome Velvia, 1/80 sec. at *f*/4.5

Arca type mount for 80-200 2.8 Nikon to F.4s, 8008 or N-90.



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habitat, most of which lies within Everglades National Park (14 million acres). Birdlife is more abundant here than anywhere else on the continent. You might see ospreys, bald eagles and most of North America's herons and ibises in this habitat, as well as such Everglade specialties as the limpkin and Everglades kite.

Scattered through these marshes are humps of land called hammocks, covered with stunted trees of tropical origin—the gumbo-limbo, tamarind, papaya and strangler fig. These jungle-like confines are home to barred owls, red-shouldered hawks, white-crowned pigeons, various warblers and other passerine species.

Near the sea, the sawgrass gives way to mangrove swamps. These scrubby entanglements are nesting habitats for thousands of wading birds such as pelicans, cormorants and anhingas. Along the coast, in the shallow, pale blue waters of Florida Bay, you'll encounter American oystercatchers, roseate spoonbills, reddish egrets, black skimmers, great white herons and a diversity of gulls, terns and sandpipers.

Bonaventure Island, Quebec

A small, uninhabited island off the tip of Quebec's Gaspé Peninsula, Bonaventure is the site of the most accessible and spectacular seabird colonies in North America. During the summer, tens of thousands of northern gannets, along with smaller numbers of Atlantic puffins, razorbills, common murres, black-legged kittiwakes, black guillemots and various gull species form breeding colonies on the rocky seaward-facing cliffs.

The main trail across the island to the rookeries winds through balsam fir and spruce woods alive with breeding songbirds like Tennessee warblers, black-throated green warblers, magnolia warblers, hermit thrushes, fox sparrows, purple finches and pine siskins. Brush up on the songs of these birds before your hike and try sorting out these species. The gannets are packed nearly shoulder to shoulder along the upper cliffs, spilling over onto the grassy knoll on top.

Cape May, New Jersey

Over the years, this has been the hottest birding spot in North America. Shaped like a giant funnel, Cape May collects migrants moving south along the Atlantic flyway and concentrates them at the tip, where there are usually plenty of birdwatchers lying in wait. Here, birds are suddenly confronted with a great gap in the coastline—Delaware Bay, an 18-mile stretch of open water. They must fly across nonstop or retreat inland to a longer but safer route. Some continue without hesitation; others loaf about the shoreline, gathering energy or waiting for favorable winds. A strong northwest wind can blow the birds helplessly out to sea and consequently causes great numbers to pile up at the end of the Cape until the weather changes.

Churchill/Hudson Bay, Manitoba

The most easily accessible Arctic birding is found in Churchill, Manitoba, Canada, a small, remote town on the shores of Hudson Bay. Many of the birds you may have seen migrating through your neighborhood back home, but these are their breeding grounds, and their behavior and appearance will be strikingly different. Of Churchill's varied habitats, the most renowned among naturalists is the tundra, a hot spot for observing nesting shorebirds. In mid-June, amidst an explosion of wildflowers, you can witness whimbrel, lesser golden plover, least sandpiper, red-necked phalarope, Hudsonian godwit and others in rich breeding plumage, full song and ritualized display.

Klamath Basin, California

Lying at the foot of the Cascade Mountains in southern Oregon and northern California, the Klamath Basin is world-renowned for its autumn concentrations of waterfowl—millions of ducks, geese and swans pass through in migration. Funneling southward from breeding grounds as remote as Siberia, undulating flocks can darken the skies in October. The visitor may see, in a single glance, as many as 250,000 snow geese rising en masse against the snowcapped eminence of Mount Shasta. In all, more than 275 species have been sighted here, including

(Cont'd on page 75)

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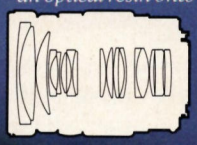

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The Art Of Photographing Nature Series, Number 1 Of 9

Distill Your Subject

By taking the time to decide what attracted your eye to a scene, you can condense your image to its visual essence

BY MARTHA HILL
PHOTOGRAPHY BY ART WOLFE

The first decision to make is what you want to photograph. The best place to start is with what appeals to you. When I used to review portfolios, I could always tell what subjects the photographers really enjoyed shooting. It was invariably their best work. If finding subject matter to photograph is easy, making it stand out is harder. Our first impulse, when something catches our eye, is to point the camera, center the subject and shoot the picture. When the processed film comes back, all too often we are disappointed and ask ourselves, "Why did I take that picture?"

As a rule, simplicity is the clearest way to make a statement. The novelist and critic Henry James wrote, "In art, economy is always beauty." At *Audubon* magazine, we used to tell our writers and photographers in jest that we editors had the attention spans of five-year-olds. The message was: Be bold and up-front with the communication. If you couldn't grab our interest quickly, then how could we expect our readers to be interested? Visual and verbal communication had to be direct.

In his book *Principles of Composition in Photography*, Andreas Feininger describes the process as "isolating" the subject. The camera is completely objective and will record everything in the viewfinder. A great many images are disappointing because too much is going on in them visually.

When Art is out in the field looking for subjects to shoot, his eyes are like scanning radar. But once he locates something of interest, the creative decisions take over. Where do I stand? How long a focal length lens do I want? How large do I want the subject to be in the frame? Where is the light coming from? What is in the background? What is in the foreground?

BY USING PROGRESSIVELY LONGER LENSES, the photographer can fine-tune the image and emphasize what is visually important. All three images are alder trees on the Elwha River in Olympic National Park, Washington state.

Clockwise from above: Nikon F4, Nikkor 80mm, Fujichrome Velvia, ⅛ sec. at *f*/16
Nikon F4, Nikkor 80-200mm at 200mm, Fujichrome Velvia, 1/15 sec. at *f*/16
Nikon F4, Nikkor 560mm (200-400mm zoom at 400mm with a 1.4X teleconverter), Fujichrome Velvia, ⅛ sec. at *f*/16

ANYTHING INCLUDED IN THE FRAME should support the main idea of the image. A busy, cluttered background confuses the eye. By simplifying the image to its essential elements, the impact of the photo can be brought out. All three images are maple leaves on a pond in the Olympic National Forest, Washington state.

Clockwise from far left: Nikon F4, Nikkor 50mm, Kodachrome 64, 1/60 sec. at *f*/5.6
Nikon F4, Nikkor 135 mm *f*/2.8, Kodachrome 64, 1/60 sec. at *f*/5.6
Nikon F4, Nikkor 135mm *f*/2.8, Kodachrome 64, 1/60 sec. at *f*/5.6

In a landscape, a lot of things are usually going on in the viewfinder. Artists who sketch in the field will often take a piece of cardboard with a rectangle cut from the middle. By holding it up to frame various sections in the landscape, they can isolate what has potential as a strong composition.

This can also be a valuable aid for photographers who have trouble visualizing the potential field of view of different focal length lenses. The closer you hold the hole in the board to your eye, the more it approximates the field of view of a wide-angle lens. The farther away you hold it, the more it resembles what a telephoto lens might see.

Isolating the subject is the first step in making a stronger composition. This can be achieved in a number of ways—coming in close, backing up, looking down, looking up, changing the direction of the light on the subject, waiting for another time of day, blurring the action or stopping the action, using selective focus to blur unwanted elements, putting a light subject against a dark background—all these are potential creative solutions.

Isolating your emotional responses to the subject may be more complicated and take time and practice, but it is an important step for an artist. If you can analyze why you feel drawn to make the picture, and work to express the feeling clearly, chances are someone looking at it will also respond with more than passing interest.

Art Wolfe—In the first sequence, we see a progressively tighter series of compositions. The first was a record

(Cont'd on page 72)

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The big sky overhead and the wide-open spaces provide plenty of interesting subjects for a lifetime of monochrome images

BY STEVE ANCHELL • PHOTOGRAPHY BY MARSHALL NOICE

Glacier In Black & White

Living in Montana, on the edge of Glacier National Park, Marshall Noice has had an ongoing love affair with both the park and photography since 1968. One of his life ambitions is to walk and photograph every trail in the park. He's still far from achieving that goal, but not from lack of trying.

Noice's interest in photography goes beyond the landscape, extending to any subject that interests him. He's well-known for his black-and-white portraiture—on-commission work he does in his famous north light studio and the images he captures when he's out relaxing with his camera for the day. This is something Noice does as often as possible—take time off from photographing so he can go make photographs.

OUTDOOR PHOTOGRAPHER: What originally prompted you to make photographs?

Marshall Noice: I wanted to share what I experienced while hiking in Glacier Park. But after seeing Edward Weston's *The Flame of Recognition,* I wanted to create photographs that could really capture the beauty and grandeur that I had seen. I purchased a Burke & James 5x7 camera for $75 from a local photographer. At that point in my life that was a princely sum, so I talked him into throwing in two film holders and a tripod.

I also purchased Ansel Adams' *Basic Photo* books and, based on the outdated information, I bought a case of GAF Versapan film and enough bulk chemicals to make a whole bunch of D-23 developer. I was trying to print these negatives and had the opportunity to show them to Ansel.

They were plain lousy. The grain was as big as baseballs, and it wasn't a nice grain. It wasn't a sharp-edged baseball; it was a mushy baseball. Ansel asked what I was using for film and developer, so I told him. He said, "Well, you might want to try Tri-X and HC-110." I went back and tried that and it was infinitely better. I guess that's one of the pitfalls of working in isolation—it's very easy

SPRING SNOW, Glacier National Park, Montana. A cross-country skiing trip through the park brought Noice to this expansive landscape (left). He made some medium-format negatives, then skied back to his car and returned with a 4x5 to make this photo.

Sinar F 4x5, Kodak Ektar 207mm lens, Kodak Super XX pan, Zone VI Brilliant paper developed in Ansco 130

BIRCH TRUNKS, Glacier National Park, Montana. At Packer's Roost, Noice was disappointed to find that no great images seemed to present themselves. While he was preparing to leave, he saw this intriguing image (right).

Sinar F 4x5, Schneider Symmar S 135mm, Tri-X in HC-110, Oriental Seagull Grade II paper developed in Ansco 130

to develop consistent work habits and become immersed in creating images, but not be aware of the latest technology that allows you to improve.

OP: You're now considered to be a master black-and-white printer. Do you have any techniques to share?

Noice: Print reduction is a technique I use a lot. I first learned how to do overall reduction of a print from Morley Baer, who taught me to print a little darker and then submerge the fixed print in potassium ferricyanide to give it a little more snap. If you're not careful, it's an easy way to ruin prints.

OP: Can you be more specific about your ferricyanide technique?

Noice: For years, I just put a small amount of ferricyanide in water and splashed a little bit of plain hypo into it. As long as there's pure hypo in the ferricyanide, the process takes place while you're watching. If you don't use the hypo, you won't see the bleaching effect until you put the print in the hypo to stop the bleaching action. I used about one-eighth to one-quarter of a teaspoon of potassium ferricyanide to a liter of water. Then I added about 10 to 20cc of hypo that's mixed one pound to one liter of water.

OP: That's a heavy concentration of hypo. Usually, it's mixed one pound to two liters.

Noice: That's how I use it for fixing prints—one pound to one liter is my stock solution. Then I dilute that by half to fix prints. But when I'm reducing prints with ferricyanide, I pour it right out of the jug. The hypo acts as a catalyst in the ferricyanide. When the bleaching is where I want it, I put the print directly into a second tray of plain hypo and it acts as a brake for the bleaching action.

OP: What about local reduction of prints to enhance the highlights or open the shadows?

Noice: That's something I've started doing extensively. I can't think of a print I've made recently in which I haven't used ferricyanide to open up a shadow or add contrast to a dark area or take something that is light gray up to that very edge of paper-base white. I apply the ferricyanide with a fairly large No. 6 or No. 8 round watercolor brush to areas that need greater contrast or to bring out detail in the shadow. The prints have been much more satisfying.

Another technique is to immerse a cold-tone print that has been selenium-toned in the ferricyanide bleach. As the print bleaches, the light gray areas turn a rosy-tan color. It warms up the light-gray values and gives the print a little bit of that warm-cool, split-tone effect, but much more subtle. I find the effect to be beautiful.

OP: Many of your images exhibit a sense of light and space that photographers often strive, and just as often fail, to achieve.

Noice: I admit sometimes I feel like intoning the spirits when the light

WEST SHORE, Flathead Lake, Montana.
Don't pass up a good image. About a year after making this photo, Noice returned to try a different approach to the subject and found that the rock in the center of the frame had mysteriously vanished.

Sinar F 4x5, Schneider 90mm Super Angulon, Tri-X in HC-110, Zone VI Brilliant grade III, split development in Selectol Soft for three minutes, then Ansco 130 for 30 seconds

is just right and hope the negative will get a little bit of that space I'm sensing as I view the scene. That's something I find to be an aesthetic problem directly related to technique that I've been struggling with throughout my career as a photographer—creating an illusion of space on a two-dimensional print. Certain films, developers and papers have a greater ability to do that than others.

OP How do you determine which paper you're going to use?

Noice: When I make an image, I often have a particular paper in mind. I'll be looking at a landscape or a still life and think, "This will really sing on Seagull," or "This is a perfect situation for Portriga."

OP: Have you experimented with T-Max films?

Noice: Yes, I use T-Max 100 in the Hasselblad. I find that the T-Max films tend to accentuate the graphic qualities of the subject. The images I've made with T-Max are successful because of their graphic qualities.

OP: What cameras and formats do you use?

Noice: I use a Sinar F, which I purchased in 1975, and a Hasselblad.

OP: That's interesting. Most large-format landscape photographers are using flat-bed, folding field cameras such as Deardorff, Wisner or Zone VI. How did you end up with a monorail design?

Noice: It was another one of those decisions made without the influence of experience or a knowledgeable mentor. At the time, the other camera I considered buying was the Deardorff, which was the only flat-bed available, and I wasn't impressed with it. I had used the Burke & James and was used to the metal monorail design, so the Sinar was a real step up. I've never used another view camera—it's the only tool I know.

OP: What lenses do you use?

Noice: 65mm Caltar and 95mm, 135mm, 210mm, 355mm Schneiders. I'd like to get a couple of longer lenses, like a 450mm and a 600mm.

OP: And in the darkroom?

Noice: That's a funny story. I spent about 200 hours building a light source that clipped onto the back of my Burke & James view camera. It was quite elaborate. I made just one print and decided to buy a Durst CE1000 enlarger. I use that and Schneider Componon lenses.

OP: As a fine-art photographer, how do you make ends meet in a small town?

Noice: I sell as many prints as I can! That's about one-eighth of a living, maybe a quarter. I also operate a portrait studio in town where I do portraits by commission—that's easily half of my income. I enjoy doing

both color and black-and-white portraits, but I have a greater sense of investment in the black-and-white since I don't do the color printing. I use both the 4x5 and the Hasselblad. If the portrait is black-and-white, I'm more likely to use the 4x5. In color, I'm more likely to use the roll-film camera. I use both studio strobes and natural light, indoors and outdoors. I rarely use the 4x5 with anything other than natural light.

OP: When you say you use natural light for your portraits, what do you mean? How do you achieve the elegant results I've seen?

Noice: There's a certain quality to light from the Northern Hemisphere, which has been noted by photographers and workers in the other visual arts. North light has the ability to render form and structure in a way no other light seems to equal. I have windows with black-out curtains on both sides of my studio. Sometimes I'll open the north curtains completely and the south just slightly to illuminate a portion of the subject's face on what would be the shadow side.

OP: What kind of exposure times do you realize using north light?

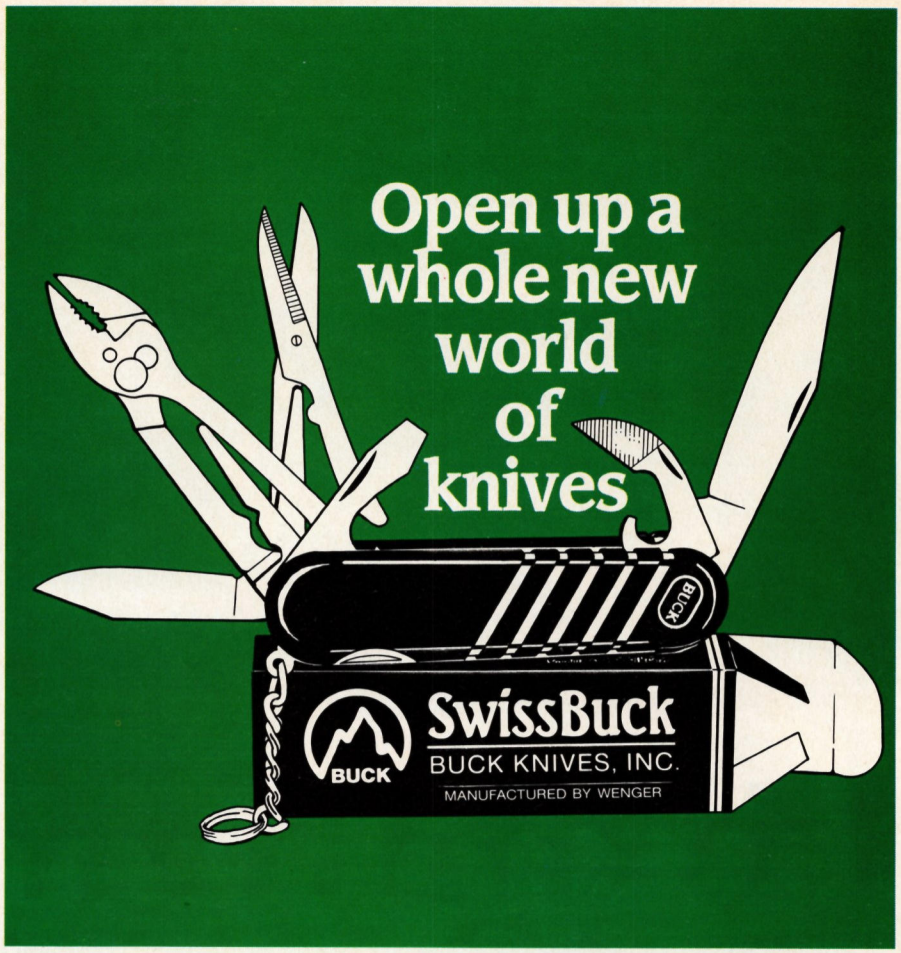
Noice: With the view camera, it's not unusual to have one second or longer exposures, which means it's easy to use a lot of film. When that occurs, sometimes I'll switch to strobe.

OP: So far we have print sales for one-eighth of a small-town photographer's income and portrait studio for one-half. That leaves three-eighths of an income to account for.

Noice: Well, I live about half-an-hour's drive from the west end of Glacier National Park, and I spend a lot of time photographing there. I tend to work in the same places again and again, trying to create an image that is more lucid, more evocative of what I've seen before. A lot of tourists come to Glacier, so I produced a black-and-white poster that's been very successful. I'm bringing out another one and may even expand and do one of Yellowstone or the Grand Tetons.

I took an 8x10-inch print of that photograph to a workshop I was assisting in 1979 and showed it to Ralph Gibson, who was one of the instructors. Ralph said, "Marshall, when you have 12 images like this, you'll never have to worry about income again." I'm still searching for number two!

(Cont'd on page 79)



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Fujichrome 400

The action peaks as the light fades, but this new, fast film will help you keep the shutter speed up and freeze the motion

BY GEORGE LEPP

Have you ever noticed how active subjects don't always present themselves in the best light or how the long lens you're using at dusk is only an *f*/5.6 and the subject in the scene won't hold still for a ⅛ sec. exposure with your slow-speed transparency film? You've been there? We all have. Fuji has stepped into the competition, adding a greatly improved faster-speed slide film—Fujichrome 400D RHP.

You might have read my comments on Kodak's new 400X and 400HC Ektachromes in the December, 1992 issue of *OUTDOOR PHOTOGRAPHER*. Fuji's bid in faster films is actually a viable choice for photographers shooting in low-light conditions. Where Kodak used its T-Grain technology for sharper fast films, Fuji uses its Sigma Crystal and Thin Emulsion Technology. The end result is a much improved 400 ISO slide film that can be pushed to 800 and 1600 ISO. These aren't "do everything" films with the resolution and color of a 100 ISO film, but sometimes more film speed is the only answer.

The previous Fujichrome 400 speed film was above average in color rendition and average in resolution or grain structure for a serious slide film. The better answer was to push Fujichrome film one stop to 200 ISO and deal with the insufficient speed or use Kodachrome 200 pushed from 400 to 500 ISO with the reasonable, yet marginal, color and grain. The new Fujichrome 400D surpasses both of the past alternatives.

My field testing included photographing polar bears near Churchill, Manitoba, Canada, and bald eagles near Haines, Alaska. Both photographic situations needed long lenses, yet had minimal available light. Polar bear photography is usually accomplished from a "tundra buggy," with a dozen or so other people in the vehicle with you. The movement of the passengers tends to create a lot of motion and requires a fast shutter speed to be surmounted. The other problem is that many of the best photographs are taken with lenses from 300 to 600mm, dictating a faster shutter speed as well.

TOP, LEFT: This surfer off the coast of Cayucos, Calif., was strongly backlit. To open up enough to get detail in his face and wetsuit and still maintain a fast enough shutter speed to freeze the motion, a high-speed emulsion was required.

Canon EOS-1, Canon 600 *f*/4, Fujichrome 400, 1/1000 sec. at *f*/5.6

LEFT: Low light, combined with the movement of these bears in Churchill, Manitoba, Canada, made this a difficult shot. High-speed film was mandatory.

Canon EOS-1, Canon 300 *f*/2.8 with 2X, Fujichrome 400, NiCd pack for camera, monopod, 1/500 sec. at *f*/5.6

Factor in weather conditions that can range from overcast skies to full-blown snowstorms, and the occasional use of a 400 ISO film starts to make sense. On brighter days, however, and when the bears were close enough to use the 300mm *f*/2.8 without any tele-extenders, I did use slower, fine-grain slide films.

The second test came on the Chilkat River in southeast Alaska, where the concentration of bald eagles, numbering more than 2000, come to feed on spawned-out salmon each fall. Most of the birds are up in tall cottonwood trees along the river or out 100 feet or more feeding along the river banks. The need here is for long glass and a 400mm telephoto is a starting point. I found myself using the 600mm at *f*/4 with a 1.4X tele-extender (840mm at *f*/5.6) most of the time. If you wanted night shots, the call was for not only a long lens, but for a shutter speed of at least 1/250 sec.

This wouldn't be much of a problem if the sun shone every day, but in southeast Alaska, snow, rain and fog are the expected weather. In my five days of shooting, I was fortunate to have two half-days of sunshine. Because of the high mountains in the area and the lateness of the season, the light wasn't shootable with slower films until around 9 a.m., and the sun dipped behind the mountains at 3 p.m. Naturally, the eagles are most active early and late in the day. These conditions add up to the occasional need for a 400 ISO film. My first choice may be a slower slide film that offers a sharper image, but the Fujichrome 400D did give me photographic opportunities that I would not have otherwise attempted.

One of the positive points of the new Fujichrome 400D was its ability to bring out the clean whites of the snow. To better check out both the other colors' rendition and to compare Kodak's 400X against the Fuji 400D, I also photographed some board and wind surfers in California. The final results showed that both films were much improved over their predecessors and very close in resolution capabilities. The color rendition isn't very different and will be a personal choice instead of a sole determination. Once again, the photographer is the winner of the technology race with the availability of greatly improved faster slide films like Fujichrome 400D. OP

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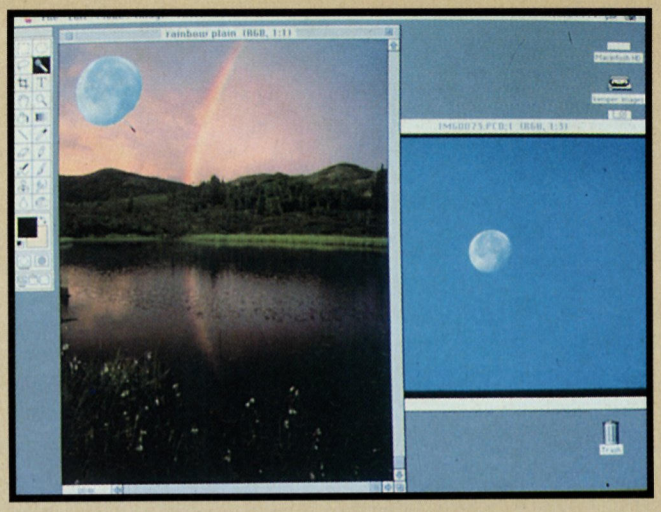
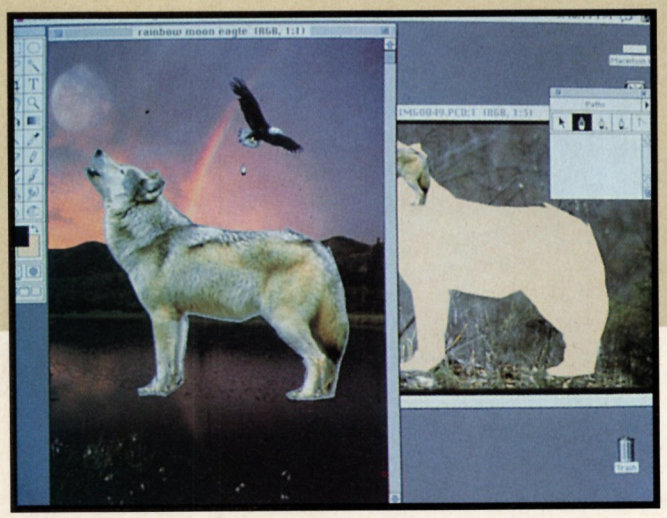
A Perfect Day In Alaska





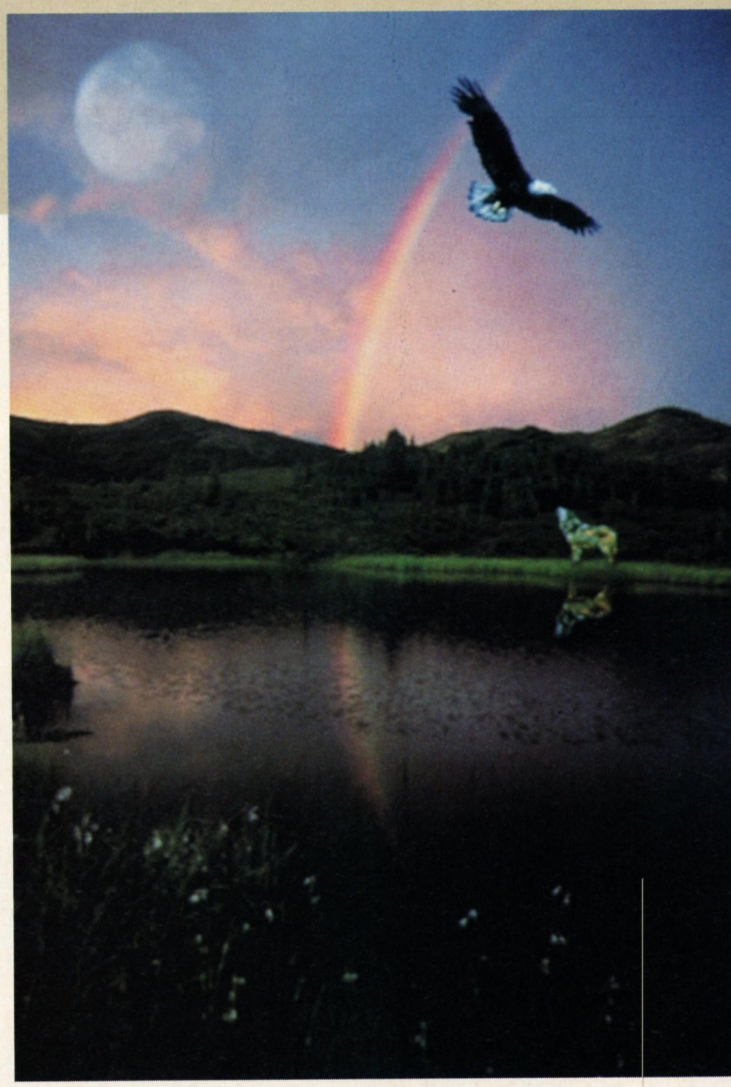
Although you may never experience the ideal wildlife or landscape shoot, the silicon age can bring you very close

BY LEWIS KEMPER

I've joked with the participants in my workshops many times about the perfect picture we would find during the day. Someone usually mentions that discovering a rainbow at sunset would be nice. Another adds, "How about a full moon?" "And an eagle flying across it?" chimes in someone else. "How about a wolf howling at the moon?" suggests yet another member of the group. And on and on it goes. So how about it? Would you like to create that "perfect image?"

Since the darkroom's inception, photographers have been manipulating their images. Some photographers create these manipulations in the camera by doing double exposures, some create montages in the chemical darkroom and others make special effects in slide duplication. With the advent of the "electronic darkroom," there's another tool that allows you the freedom to craft images that were difficult, if not impossible, to do in the past.

This article is the first in a series that discusses the new electronic darkroom and how you can put it to use. There are numerous image manipulation programs available for the personal computer, and the most widely used of these programs is Adobe Photoshop, which allows you to take elements from one image and place them in another image, and is available for both Macintosh and PC-compatible computers.



IF YOU CAN IMAGINE IT, you can create it. The final image (above) was the result of combining several original slides that were scanned onto a Kodak Photo CD. The Photo CD computer files were combined in Adobe's Photoshop program to create intermediate steps (smaller computer screen images, top and left) and, finally, this impossible dream from Kemper's imagination.

All the image manipulation you see here was done using a Macintosh Quadra 950 with 40 megabytes of RAM, a 235-megabyte hard drive, an Apple 16-inch color monitor, PLI CD-ROM disk drive, a Magic 128 optical drive and a Spectral Innovations DSP accelerator for Adobe Photoshop filters. This article, however, isn't about hardware, but about the fun and creativity you can have working in the digital darkroom.

These images were originally taken with a Nikon camera and conventional film and were custom-scanned onto a Photo CD by Palmers Photographic of Sacramento, Calif. Palmers was one of the first Photo CD stations in the country and does an excellent job of providing images to use in the digital darkroom.

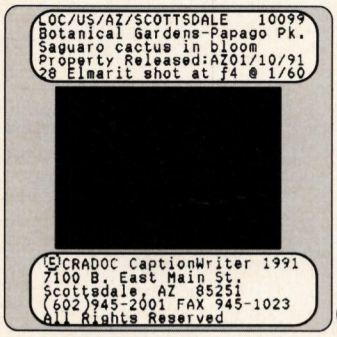
Using the Kodak Photo CD acquire module for Photoshop, I open my images into the program. The first image is a picture I took while in Denali National Park in Alaska, where I had the luck of capturing a rainbow during sunset. The next step is to add the image of a moon I shot in Central California.

I open another window of the moon shot, and using the wand tool from the tool palette on the left edge of the screen, I select the moon in the picture. There are many tools in Photoshop that allow you to select areas, and the wand tool selects color. You place the tool on a particular color, click the mouse button and the tool selects all adjacent colors that are similar. I used this method to pick the moon out of the blue sky. Once the moon is selected, I copy it using the copy command from the "Edit" column in the menu bar located at the top of the screen.

Next, I move back to the original rainbow picture and paste the moon image in it. As long as the moon is still highlighted by the "marching ants" or dotted lines, I can move it to any location in the image. Since the photograph of the moon was taken on a clear day, I needed to make some adjustments to its color balance to make it look like part of the new image. For this, I use the cloning tool to clone parts of the sky over the moon, setting the opacity to 35 percent. This adds the warm colors to the moon.

Now for the eagle. I open the image of an eagle that I had taken in Ketchikan, Alaska, and enlarge the eagle with the magnifying tool so that I can have a larger subject with which to work. I then open the path toolbox from the "Window" column on the menu bar, choose the path tool and begin to outline the eagle. The path tool makes an anchor point every time you click the mouse button and a connecting line is made between each anchor point, similar to "connect the dots." This gives you a very precise way to outline a complex object. Once the eagle has a complete path around it, I choose "Make Selection" from the path toolbox sub-menu. This takes my path and turns it into the current selection. Next, I click the mouse button while pointing on the empty white space in the path toolbox—this clears the path and keeps the object selected. I once again use the copy and paste features, and this places my eagle into the new picture.

Once I add the photograph of the wolf and its reflection, the picture will be complete. I open the wolf picture using the acquire module, and using the same method as with the eagle, I make a path around the wolf. When the path is complete, I again turn the path into the selection. Using copy and paste, I move the wolf over to the new image. The wolf is much too large to just place into the picture, so I resize the wolf using the scale feature. The scale feature



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A Perfect Day

There are a couple of ways to get your images into your computer. One method is to use Kodak's Photo CD technology, which requires you to have a CD-ROM drive capable of reading the Photo CD format. The advantage of the Photo CD is that scans are inexpensive. They cost between $1 to $3 for regular scans, and the new Pro Photo CD scans cost between $5 and $10 each. The other method is to have a service bureau scan your images on a film scanner or drum scanner. These range in price from $25 to $150 a scan depending on the size of the scan. Most high-end professional photo labs are adding digital services to their facilities. Check your local phone book.

Here is a list of a few of the Photo CD stations in the country. This is not a complete list by any means. If you don't see a station in your area call the Kodak Information Center at (800) 242-2424, ext. 53.

New York, NY
Raffi Custom Color
(800) 237-4849

Hollywood, FL
Dale Laboratories
(800) 327-1776

Chicago, IL
Helix Ltd.
(312) 421-6000

Cincinnati, OH
Robin Color Lab
(513) 381-5116

Dallas, TX
Barrys Corporate Lab
(214) 241-0582

Seattle, WA
Argentums Photographic and Digital Services
(206) 448-9027

San Francisco, CA
It's CD
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Los Angeles, CA
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(800) 995-1025

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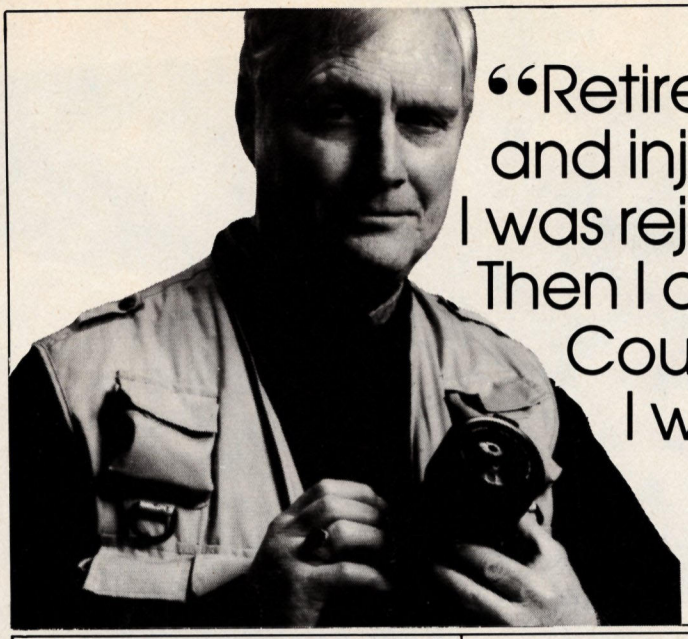
Palmers Photographic
(800) 735-1950

(Cont'd on page 88)



"Retired from the military, and injured in a car crash, I was rejected for job after job. Then I discovered your Home Course. Within six months I was... (see below)

C. Ross Perry

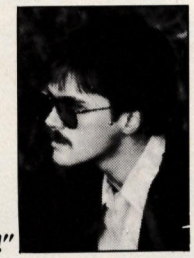
C. Ross Perry
Calgary, ALTA.

Ross Perry's story has inspired all of us at NYI and we'd like to share it with you. In his words: "Within six months of enrolling I was hired to photograph construction of ten new radar sites in the Arctic. My first thrill was 'commuting' to work on twin-engined Otters and helicopters. My second thrill was **earning $6500.00 in the first month alone!** Only my wife, my banker, and you know how happy the NYI Course has made me. Thanks, NYI."

Since 1910 NYI has made dreams come true for thousands of other students too. **"Thanks to your Course,"** writes Eugene Bayout of Portland, OR, **"I'm living out my dream, earning my bread as a portrait photographer. NYI home training did more for me than any school I ever attended. The Course is the best. It's great!"**

Still, you may be wondering: *Can I learn at home to earn extra money with my camera too?*

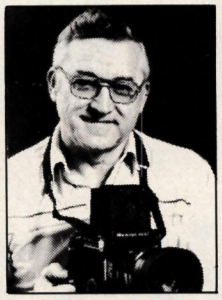
Yes, you can, with NYI's help. Before he enrolled, Robert Sirovy of Vista, Cal., also wondered. Now he writes: **"You turned my hobby into a nice second income in my spare time."**



And Glenn Lewis of Murfreesboro, Tenn., has opened his own environmental photography business. Glenn always enjoyed taking wilderness pictures. **"Now,"** he says, **"I'm paid to do it. I love it!"**

These success stories are not unusual for NYI Home-Study grads. Fact is, NYI has trained *more* successful photographers than *any other school in the world.* But what if you're not interested in making money or starting a new career? What if you'd just love to see your pictures win prizes, be exhibited, get published? Can NYI help you also?

We sure can. After his NYI Home Course, Larry Souza of Wichita Falls, Texas, rejoiced because **"Now my pictures are seen in newspapers all over the country."**



And Leo Paro of Burton, Michigan, fairly glowed: "I'm proudest of having one of my pictures published in *Readers Digest.* **Thanks, NYI. You made a successful photographer out of me at the tender age of 50."**

We helped Daniela Neukamm of Ontario, Canada, too. She was **"thrilled to see my photographs published in a national magazine."** Daniela adds, "Your step-by-step home training and personal cassette tapes gave me the skill, encouragement, and confidence I needed to succeed."

Are you still wondering if NYI can help *you* too?

Paul Owens of Miami, Florida, also had some doubts. **"Now,"** he writes, **"I must admit enrolling with NYI was one of the best decisions I ever made."**

"It's the easiest-to-understand photographic training I've ever seen," says Darrell Pe[illegible] of New Paris, Ohio, adding, "[illegible] tire program still a[illegible] at sh[illegible] w[illegible] the skil[illegible] exc[illegible]

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All these NYI students started the same way. They sent a coupon or called Toll-Free and had NYI's lavishly illustrated Home Course color catalog mailed to them — *absolutely free.*

Find out why Joe McKlemurry of Farmington, Conn., writes: **"My only regret is that I didn't enroll earlier."**

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The rustle of leaves greets your footfalls as the sun filters through the mist-laden, dawn air. A knot begins to develop, almost unnoticed, in the muscle of your shoulder. It comes from the weight of a camera bag, filled to bursting with every possible lens and accessory and a plentiful supply of color film. On top of that gear rides the tripod you always carry to ensure the making of tack-sharp images.

Walking from the hazy sunlight into the deep shade, hidden in the wake of a beautiful stand of maples, you feel that first chill—it's colder out here than you anticipated. About now, you're probably wishing you had paid more attention to *OUTDOOR PHOTOGRAPHER's* guide to cold-weather apparel and made some judicious purchases.

To stave off the chills inherent in autumn shooting, we present some of the best of the outdoor clothing currently available. From Vent-A-Layer, the highest of the high-tech, to Woolrich and Columbia, both of whom make truly fine garments in traditional fabrics, we look at the fashions that will keep you looking natty and toasty-warm to boot while you're creating those memorable fall images.

1

FALL-WEATHER WEAR

Whether wind, rain, sleet or snow, bad weather can result in good photos. These garments will take the damp and cold out of your upcoming fall and winter outings.

STAFF REPORT

4

1. Vent-A-Layer

DuoFold, one of the oldest names in warm clothing, introduced the Vent-A-Layer system a couple years ago. We tested the system last winter in Yellowstone National Park and Jackson Hole, Mont., and were amazed at the ratio of weight to warmth. Many times it was so cold that the buffalo seemed to be shivering, but we stayed warm and comfortable. Vent-A-Layer provides a matched layering system with three layers—the inside most layer is Thermostat underwear, which keeps you warm, but allows

perspiration to escape; the middle layer, made from Thermostat Arctic Fleece, is lightweight, yet traps warm air next to your body; and the outside layer is made of Gore-Tex, which stops wind and rain, but still breathes. If you're planning to be outside shooting when most sane people would be at home by the fire, you'll want to be wearing Vent-A-Layer.

2. Timberland Weathergear Zip Front

Featuring a 100-percent nylon shell that's water-resistant and has more pockets than a photographer knows what to do with (almost), the Zip Front is a natural for cold-weather photographic expeditions. We used two of the pockets for film stock, shot film and still had plenty of pocket space for gloves and other personal accoutrements. The length of the coat, weather flaps and sleeve closures make it a great choice when wind and rain dog you out in the field.

2

3. Woolrich Saddle Blanket Coat

Whether you're out riding the range or making large-format, black-and-white negatives with a wooden field camera, this saddle blanket coat from Woolrich will be a great complement. The jacket not only features that "old southwest" look, but also sports a thermal liner that will keep away the frost on most fall days so you can continue to snap away in comfort.

3

4. Columbia Big Sky II Parka

For travel, this heavyweight, cotton canvas jacket with removable fleece lining is tough to beat. The parka is garment-washed, meaning the jacket has been washed as a unit before you bought it. This process prevents uneven shrinking so the jacket will never lose its fit. Radial-cut

5

6

sleeves allow great freedom of movement, too. The liner and jacket can be worn separately, creating a versatile system that will keep you comfortable in weather from cool to downright frosty.

5. Royal Robbins 511 Pants

The 511—classic cargo pants with pockets everywhere, which are great for carrying filters, film, batteries, pens and all sorts of small accessories. The pants are made from 8½-ounce cotton canvas and are pigment-dyed, which gives them that broken-in look. The knees and seat are reinforced, a much-

7

8

needed feature for photographers who must get in real close for macro shooting. The knees also have pockets into which pads can be inserted to save your knee caps from wear and tear if you do a lot of low-angle images and end up spending a good part of the day on the ground. These pants are so rugged that the FBI has designated them as the outdoor wear of choice for its trainees.

6. L.L. Bean Fleece Pullover

L.L. Bean was one of the first outfitters to add Polartec to its line. Bean's fleece pullover is made from

For More Information

Columbia Sportswear
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Portland, OR 97203
(800) 622-6953 or
(800) 547-8066

DuoFold/Vent-A-Layer
120 W. 45th St., 15th Floor
New York, NY 10036
(800) 448-8240

L.L. Bean
Casco St.
Freeport, ME 04033
(800) 221-4221

The North Face
999 Harrison St.
Berkeley, CA 94710
(510) 527-9700

Royal Robbins Inc.
1314 Coldwell Ave.
Modesto, CA 95350
(800) 344-7277

The Timberland Co.
11 Merrill Industrial Dr.
Hampton, NH 03842-5050
(800) 258-0855

Woolrich Inc.
Woolrich, PA 17779
(800) 995-1299

Polartec Series 200 and works well on cool days or under your jacket on colder days to keep you warm. The pullover has nylon supplex trim, and all neck seams are covered to prevent chafing. Hand warmer pockets and its overall breathable, soft comfort make the pullover feel like an old friend from the first time you wear it.

7. The North Face Denali Jacket

The classic North Face Denali jacket has been seen in virtually every mountain range in the world. The Denali is made from Polartec 300, a synthetic with an incredible weight to warmth ratio. In addition to its advanced Polartec fabric, the jacket has reinforcements made of abrasion-resistant Taslan at critical points on the elbows and upper body. The Denali also zips into the North Face mountain jacket for those occasions when bad weather turns worse.

8. Columbia Guinness Fatigue Sweater

The fatigue sweater is another one of those classics that never goes out of style. This variation has been done in wool, cotton and silk, and now Columbia manufactures it in MTR fleece—its high-tech, warm and fuzzy fabric. The sweater can be worn over a shirt or is soft enough to be worn by itself. The Guinness also sports the same radial-sleeve design as the Big Sky Parka, allowing unrestricted movement. OP

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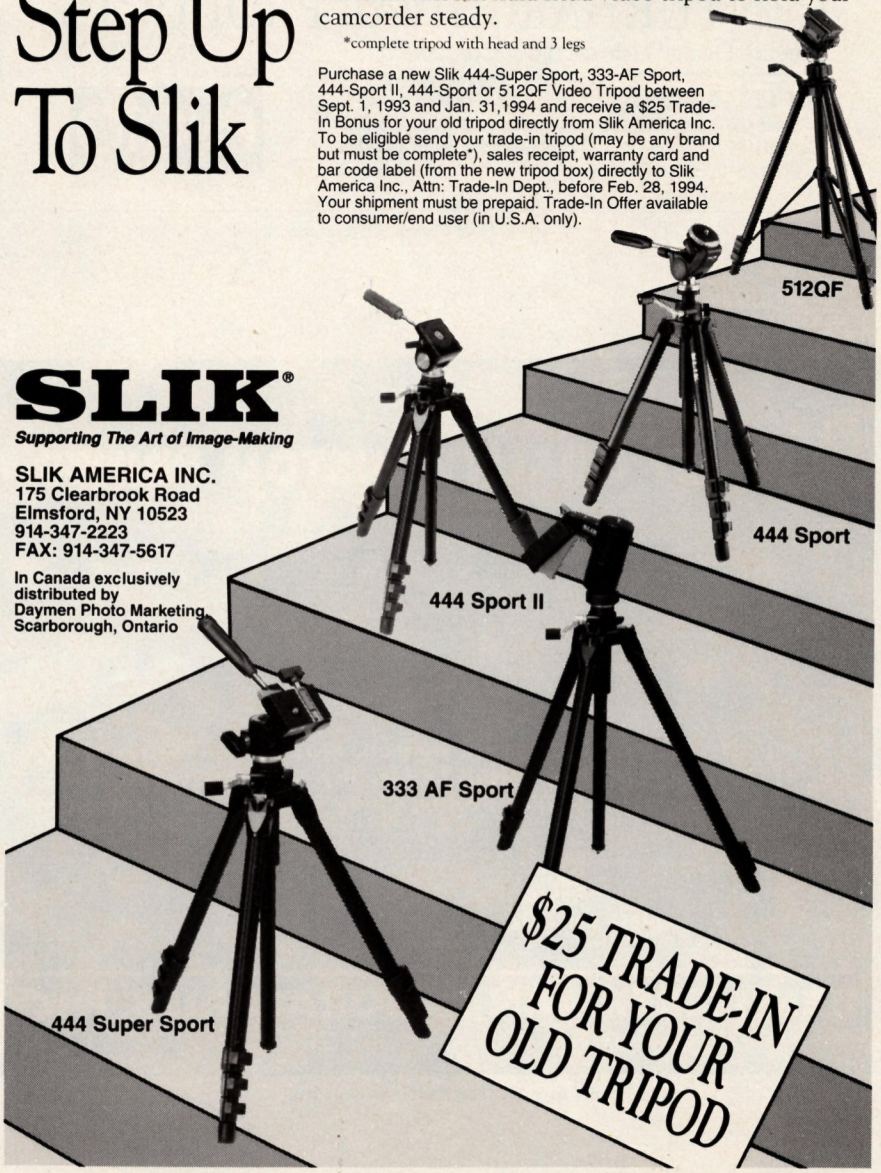

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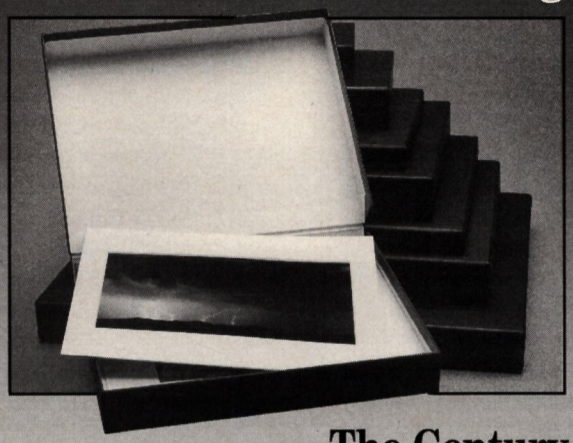

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DISTILL

(Cont'd from page 56)

of what I saw as I drove up a road in the western Olympic Mountains. What caught my eye were the white alder trees in the early spring. I used my 80mm lens to record the scene. The composition is loose; there is too much detail. Very distracting elements are the light sky, the trees on the right and the shoreline in the foreground strewn with logs. All these serve to weaken what I initially saw.

The second image was taken at a 200mm focal length, and while some of the distracting elements are removed, I still haven't achieved the statement of trees that I want. The last image was taken with a 400mm lens. I'm now tight on the tree trunks, and there is nothing to compete with the delicate lines of the trunks and branches. The fine detail, however, couldn't have been achieved on a bright, sunny day. The even, soft, overcast light created a uniform condition, without bright highlights and dark shadows. Had I photographed this scene under sunny, midday light, the trunks would have cast shadows on each other, and the image would have broken up into dark and light patches, making it too hard for the film to read.

Martha Hill—This is a classic landscape dilemma most photographers are faced with and a perfect example of making order out of chaos. If you don't have the luxury of moving to a new vantage point from which to photograph, then you have to think of an alternate way to make the image say what you want.

We used an image very similar to this of Art's aspen trees as a cover of *Audubon* in March, 1985. It was a subtle study of line and tone, again taken under soft-light conditions. Trees have character. But what made the cover image so unusual was just having the straight, narrow, white trunks of the trees closely massed together.

AW—In the next set of images, I'm photographing maple leaves I found floating on a small pond on the Olympic Peninsula. In the first image, shot with a 50mm lens, there are a lot of elements that confuse the eye—the out-of-focus blades of grass in the foreground, the leaves below the surface and the tangle of reeds at the top of the frame.

In the second frame, I've gone to a 135mm, and I'm narrowing down my

subject matter. My interest is clearly the floating leaves, but there is still a lot of clutter here. Some leaves are out of focus, and my eye is still wandering throughout, trying to make some kind of order.

In the third image, I've simplified it to a single leaf floating on the surface. To give it a sense of place, I've left a suggestion of the reeds in the reflection. The final image still has the same elements as the first, but the statement is clearer and stronger.

MH—While I do like the composition of the middle image, I would have to reject it for publication because of the shallow depth of field. If the front edge of the biggest leaf were sharp, it would be publishable, and I'd also crop the light spots at the top edges.

The final version is definitely the best, partly because of its simplicity, but also because there is a subtle play of elements going on in the picture. There is no question, visually, that the leaf is floating on the water. As a light subject, it comes forward of the darker background. Art has also placed it high in the picture, so it floats within the vertical space. But it's firmly held down in the picture space by the strong dark space at the top. From the bottom, the soft curves of the reflected reeds hold the leaf up and in the frame.

The reflection of the grasses implies a swirling movement to remind us the leaf is not really frozen. It's subject to the flow of water and the blowing wind. Without this, the picture would be static. The dark shadow line of the grass gently divides the picture across a diagonal line, which adds a dynamism to the image, reinforcing the illusion of motion. **OP**

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Art Wolfe and Martha Hill

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(Cont'd from page 28)
R-series lens into a scope with a power four times the natural magnification of the lens. When used with a 400mm lens, for example, the Telescope-Ocular would provide 32X magnification. Ask your photo retailer for details on these and similar photo lens adapters.

Due to the rotation of the Earth, you'll notice the stars moving from east to west. In photographs, this produces streaks instead of pinpoints of light during long, several-second exposures. Consequently, many of the powerful scopes are equipped with a motorized clock drive powered by a battery or AC current. These will automatically track celestial subjects so they appear motionless on film.

With or without the extra weight of such devices, a sturdy, heavy tripod is mandatory with any telescope. A ballhead like the Sinar Foba Superball is also a great asset at these high magnifications. The Foba will support a camera and lens combination weighing up to 25 pounds and hold it rock-steady at almost any possible attitude. The head also shows exact rotation marks over 360 degrees for positioning of panoramic shots or other precision applications.

Trigger the camera with a cable release or self-timer to prevent vibration that would degrade image sharpness. An SLR with mirror lock-up will help minimize internal vibration, which becomes especially noticeable at extreme magnification. If your camera isn't suitably equipped, avoid shutter speeds of one second or less. Beyond that the effect is less noticeable, as the vibration occurs during a small percentage of the total exposure time. Exposure metering requires trial-and-error experimentation or bracketing, but is a skill worth acquiring.

You can create extraordinary pictures of the moon and stars or a solar eclipse (using the necessary solar filters) with an investment of $1,000 or less if you shop wisely. OP

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(Cont'd from page 52)
180 nesting species. Bald eagles are more abundant here than any place outside Alaska, with more than 500 spending the winter feeding on sick and injured waterfowl.

Lower Klamath Refuge hosts the largest number of breeding waterfowl; Clear Lake Refuge is dotted with small islands where white pelicans, double-crested cormorants, Caspian terns and various gulls have established nesting colonies. On the surrounding sagebrush uplands, sage grouse strut about their courtship arenas in late March and early April. Other semi-desert specialties breed here, including four sparrows—the vesper, lark, Brewer's and sage sparrows—that will challenge your identification skills.

The Tule Lake Refuge is best known for its hundreds of nesting western, eared and pied-billed grebes. All of the National Wildlife Refuge units are administered from Tule Lake Headquarters in Tule Lake, where maps and information are available.

Point Pelee, Ontario

This flat spit of land, projecting southward into Lake Erie for nine miles, has long been a Mecca for birdwatchers. It's believed by many birders to provide the most dramatic show of migrating species on the continent. Most of the area is preserved inside Point Pelee National Park.

One of the best times to visit is May, and if bad weather descends from the north, there will be an exciting "fall-out" of birds. Crossing Lake Erie into the wind, northbound migrants make for Point Pelee, the nearest landfall. During a storm in mid-May, the peninsula will be alive with tanagers, flycatchers, orioles, vireos, grosbeaks, buntings, thrushes, swallows and especially warblers.

Platte River, Nebraska

Each year at winter's end, Nebraska's central Platte River Valley comes alive with the impressive sights and sounds of the largest gathering of any crane species in the world. Some 200,000 sandhill cranes, migrating from wintering areas in New Mexico and Texas, convene here for a month or so to feed and rest.

These tall, long-legged birds, with their resounding, gargling calls, are drawn to the Platte for several reasons. The river satisfies the cranes' special requirements for a night roost—a broad, shallow river channel (2000 feet wide and six inches deep) whose islands and sandbars are free of vegetation. There's also abundant food in the surrounding countryside.

There are only 80 miles of the Platte River where good numbers of cranes can be found. The longest stretch is between Grand Island and Lexington; another is between North Platte and Sutherland. There are few cranes elsewhere. Once, most of the Platte was sandhill crane habitat, but the water has been diverted for irrigation, causing the channels to narrow and vegetation to grow on sandbars and islands.

Texas Coast

The Texas coast offers perhaps the widest range of birding experiences of any location in the United States.

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Birding Spots

Much of the shoreline is comprised of marshes, shallow lagoons, sandbars and mangrove swamps that attract a great number and variety of wading birds and over-wintering grebes, loons, waterfowl and shorebirds. Of particular renown is Aransas National Wildlife Refuge where endangered whooping cranes pass the winter. The best way to view these large waders is to board one of the birding tour boats, which leave several times daily from the town of Rockport.

Birds migrating to and from South and Central America pass along the Texas coast during fall and spring. Nowhere can you get a better view of migrating songbirds than in the little town of High Island, located about 25 miles north of Galveston. This slight hump in an otherwise table-flat landscape is the only place for miles where there are trees. Warblers, vireos, thrushes, grosbeaks, buntings and orioles, exhausted by their flight across the Gulf of Mexico, home in on this solitary refuge. The best time to visit is during stormy weather in mid-April, when the oak and hackberry trees are alive with these songbirds in brilliant breeding plumage.

While you're in the High Island vicinity, be sure to visit Bolivar Flats at low tide to see perhaps the most varied aggregation of shorebirds on the continent (including avocets in flocks of a thousand) and hundreds of white and brown pelicans loafing on the sandbars. It's an excellent spot to see and compare as many as 30 species of shorebirds at once.

Another attraction for birders is in Texas' deep south, along the Rio Grande River. Here, sub-tropical vegetation draws rarities from Mexico, including the least grebe, black-bellied whistling tree duck, chachalaca, tropical kingbird, kiskadee flycatcher and the hook-billed kite. Don't miss the tiny but spectacular Santa Ana Refuge, one of the best places to experience this habitat.

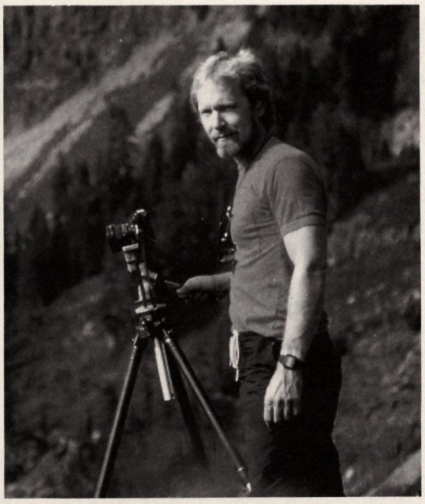
Although the areas and regions described above offer some of the most dramatic bird spectacles on the continent, equal excitement can often be found in your own neighborhood. To tune in to the local action, consult a regional bird guide for your area. Those compiled by Audubon Societies are usually excellent, as are James A. Lane's series of *Birder's*

Guides (L&P Press, Box 21604, Denver, CO 80221). Although in need of revision, *A Guide to Bird Finding (East or West) of the Mississippi* (two volumes are available) by Olin Sewell Pettingill Jr. (Oxford University Press, New York, 1981) is an excellent reference that provides specific site information for all of the United States.

Your own backyard may prove to be even more productive photographically if you make it attractive to birds. You can set up a bird feeder stocked with seeds and suet, or during the warmer seasons, a hummingbird feeder and bird boxes. You can plant trees and shrubs that provide food, shelter and nesting sites to create a miniature sanctuary where birds can be photographed from a house window or blind.

In most regions, a suburbanite can expect to attract 20 or more species to the backyard; in rural settings, the variety is even greater. There are numerous books describing how to attract birds, and some of the best information is available free of charge from the National Wildlife Federation in Washington, D.C.

Photographing birds in your backyard makes it easier to do specialized photography, such as stop-action flash images of birds bathing at a birdbath, rearing their young inside an artificial nesting box or swooping into a feeder. The private venue makes it practical to construct studio setups where birds can be predictably photographed in well-lit, attractive settings that are visited frequently by the subject. And you just might be surprised by the number of species you can attract. **OP**



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Art Of Autumn

(Cont'd from page 44)

Watch carefully and be patient.

Wise and prudent use of filters can improve your autumn photographs. Many amateurs, however, believe the pros use filters as their secret weapon to capture brilliant autumn color. I believe it's much more related to the use of good light. I use 81A or 81B warming filters on a regular basis since I often photograph in conditions in which there's more blue light, such as in open shade or on overcast days. A polarizer can be very useful on both cloudy and sunny days. Reflections eliminated off shiny leaves will bring out the color more. The drawback, of course, is that they require about two stops more exposure.

The ultimate reward in photographing the landscape is tuning into the natural rhythms of the land and renewing a sense of wonder. The experience of seeing is most important—take the time to assimilate to the surroundings. If I don't find a single image to make, I'm not going to worry about it. This virtually guarantees I'll find one. I see this as a Zen, or meditative approach. One waits patiently for, but doesn't force, inspiration. The joy of seeing something that moves me is the motivation to make an image. The urge to make photographs, irregardless of inspiration, leads to a forced effort and results in lesser-quality images.

The making of a photograph comes second but not secondary. The deeper the experience of seeing, the better the images can be. The combination of seeing and then resolving the vision photographically is vastly rewarding. When you're photographing this fall, put your camera down for a while and enjoy the moment. The best images are made by a relaxed and refreshed mind. Is there a better place to rejuvenate your soul than in the wildness of nature? **OP**

***William Neill**'s second book,* By Nature's Design, *has been released this fall by Chronicle Books. The book, a collaboration with San Francisco's Exploratorium Museum, explores the order, economy and eloquent artistry of nature's patterns. To order, call Chronicle Books, (800) 722-6657. Neill's first book project illustrated* The Sense of Wonder *(The Nature Company, (800) 227-1114) by Rachel Carson.*

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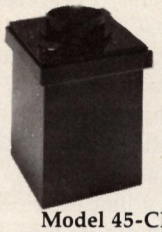

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(Cont'd from page 61)

OP: How was that image made?

Noice: I was cross-country skiing and I had a Hasselblad camera in my fanny pack. I took a photograph with the Hasselblad, skied back to the car and got my 4x5, returned and took the image a second time. The square image is equally strong. There are certainly no better lenses in the world than Zeiss lenses. That becomes a critical issue when you want to make enlargements from roll-film negatives.

OP: It's interesting that the one image Ralph Gibson commented on was taken when you were cross-country skiing, away from your car or other conveniences.

Noice: I think it relates to my approach to photography. Photography for me is very much integrated into my life. I tend to photograph rather than take a trip to photograph. In other words, photography is something I do every day, not something I make special arrangements to do.

When I'm teaching, one of the points I like to make is that I wouldn't dream of photographing anything I'm not interested in. I think a lot of people are in love with photography, but really don't create images that are worth much. Often, it's because they don't integrate photography with other passions they have.

In my case, I'm very interested in the landscape from a variety of perspectives. I'm interested in geology and botany, and I've been a student of Glacier National Park, from both an historical and geographical perspective. Those interests and my determination to photograph subjects I'm truly interested in is the reason photography has continued to be something I really love to do. **OP**

Marshall Noice

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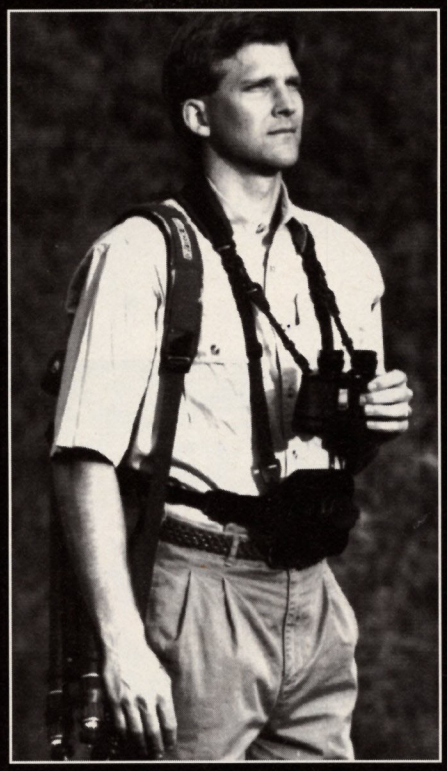

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Traveling With The Elite

Filmstyles of the rich and famous? No—a look at a superb new slide film from Kodak.

BY LISL DENNIS

Like swords, the cutting edge of film quality is sharpness, and Kodak and Fuji have been dueling for years in the film quality wars. Deciding who is the winner of the moment is a tricky judgment call, especially when informed film choice is so subjective.

What's the film choice criteria? Professional and art photographers choose a film that best expresses their style. Many fashion photographers go for the pushed-to-the-limit look. The last thing Sarah Moon, Deborah Turbeville and Sheila Metzner want is the sharpest film in the arsenal—romantic grain is the Holy Grail for these shooting stars.

My style is best served by maximum depth of field and sharpness. Therefore, I'll always pay attention when one of the majors claims to have produced a new film on the cutting edge of sharpness, unless it's just too slow on the draw as is any ISO 50 emulsion for general on-and-off-the-tripod travel photography.

What converts me? Here's the fairy tale—unexpurgated version. The knights in shining armor of the film wars are the regional technical representatives whose job it is to convince the retail camera stores to stock their companies' film as well as to carry the Kodak and Fuji banners into the consciousness of professional photographers. These crusades have taken two forms for me.

Like most pros of my generation, I was a confirmed Kodachrome shooter for many years. One day in New York City, my apartment's

intercom buzzed. A crusading Fuji representative introduced himself cold turkey. I let him in, listened and accepted five free rolls of Fuji 100 RDP. I paid for and shot Fuji 100 in 35mm and 120mm formats exclusively for the next six years.

I attended the Photo Marketing Association (PMA) Show in Atlanta, Ga., in February, 1993. Advance flares sent up in the press had alerted me to Kodak's new E-6 transparency film entries—Ektachrome Lumiere Professional Films (see "Lepp On Lumiere," *OUTDOOR PHOTOGRAPHER*, August '93 issue) and the amateur Ektachrome Elite. At the PMA show, I spent some time bent over a light table analyzing chrome comparisons. Since that time, I've been "crusaded" by Kodak's southwestern technical representative, shot my 10 gratis rolls of Elite, listened, looked and now I'm on my own. (No, pros don't get comped for life.)

This is what I heard: Elite's color balance is somewhere between the two pro Lumiere warm and neutral emulsions. The T-Grain technology introduced by Kodak into certain emulsion layers of its black-and-white films is now incorporated into all layers of the new Lumiere and Elite films in all formats. In fact, what Kodak calls "tiny Ts," even smaller bits for better sharpness and finer grain, are included as well. Then I heard the refrain about clean whites and neutral grays. On my light table and projected on a screen at 50 feet, this is what I saw: the sharpest ISO 100 slides that light ever passed through. Elitism!

This is what I think: Image quality isn't the result of any single element. Rather, it's a byproduct of the optical quality of the lens used, technical excellence, which means correct exposure and no camera motion, and the color, contrast, grain and sharpness of the film in use. It stands to reason that even the best film exposed through plastic in the middle of a bender isn't going to perform to the max.

The color rendition of Fuji 100 and Kodak's new Elite are so similar you could ding yourself testing this edge. The Elite may be a hair more saturated, but color balance has never twisted my knickers overmuch

(Cont'd on page 87)

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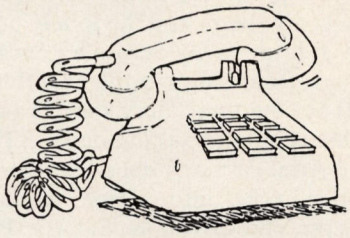

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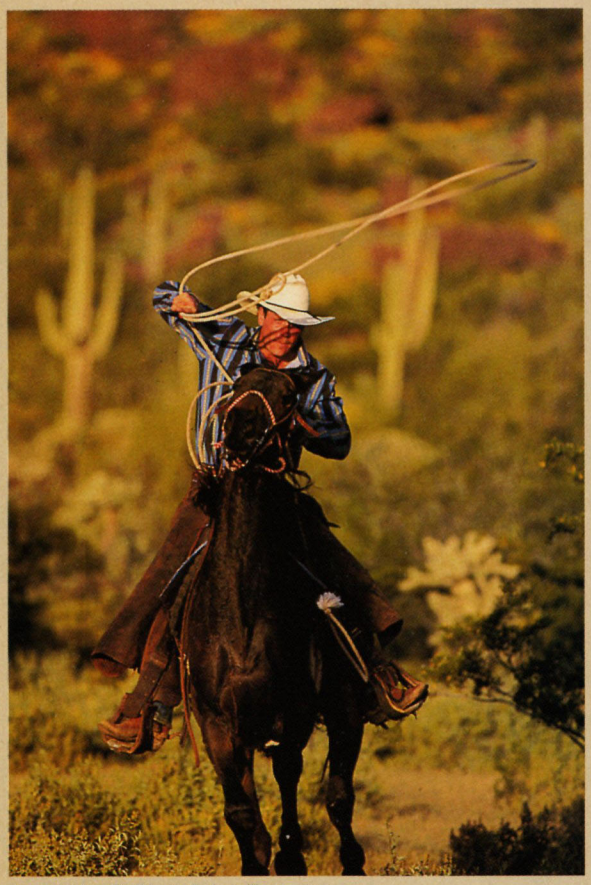

Joseph Van Os Photo Safaris/Renee Lynn

Cowboys Of The Southwest

January 11–16, 1994

The modern cowboy raises his lasso to a setting sun as he chases that last longhorn back to the holding pen. This unique photo safari features model-released cowboys in every phase of the Western legend—except the shooting is done with cameras! Top magazine photographers Renee Lynn and Tim Davis will set up and direct this professional-quality shoot, with opportunities to photograph the hard-riding cowboy at work and the lonely cowboy riding slowly across an endless desert. Rounding out the experience will be campfires, fiery sunsets and a rodeo at a ranch setting outside Tucson, Ariz. Participation is limited.

For more information, contact: Joseph Van Os Photo Safaris, P.O. Box 655, Vashon, WA 98070, (206) 463-5383.

Magical Santa Fe

September 19–October 16, 1993

Santa Fe and the brilliant desert of northern New Mexico provide the backdrop for these fall photography workshops. The foothills of the Sangre de Cristo Range and the collage of Indian, Hispanic and Anglo cultures add to the allure of this unique place. The four-week program offers three workshops per week, with masters in their fields conducting intensive sessions that focus on "Architectural Photography," "The Figure Study," "The Color Portrait," "The Fall New Mexican Landscape," "Color Photography in New Mexico" and "Adventure Travel Photography."

For more information, contact: Santa Fe Photographic Workshops, P.O. Box 9916, Santa Fe, NM 87504, (505) 983-1400.

Videomaker Magazine

November, 1993

Led by the publisher and editors of *Videomaker* magazine, this intense four-day workshop involves participants in the planning, writing, producing and editing of a final video program. The workshop will be held amidst the coastal beauty and subtropical climate of Palm Beach, Fla., with its mysterious everglades and endless beaches.

For more information, contact: *Videomaker* Magazine, P.O. Box 4591, Chico, CA 95927, (916) 891-8410.

Women In Nature Photo Conference

May 21–26, 1994

Yellowstone National Park is the setting for the first major gathering of women nature photographers. The conference begins with an intensive seminar presented by foremost professional photographers Heather Angel, Kathy Bushue, Renee Lynn and Linde Waidhofer. Participants will explore topics faced by women photographers—how to balance family and the pursuit of photography, career paths, marketing, book publishing and traveling and working alone. There will also be portfolio reviews and the chance to photograph the region's wildlife and geothermal landscapes. This is a unique opportunity for women photographers of all skill levels to discover renewed strengths and abilities.

For more information, contact: Joseph Van Os Photo Safaris, P.O. Box 655, Vashon, WA 98070, (206) 463-5383.

Explore New Zealand

November 9–23, 1993

Not many places in the world offer photographers a land as rich in beauty and natural wonders as New Zealand. Volcanoes, glaciers, mountains, fiords, tussocklands and geothermal springs adorn this vast country. Photographer Ron Rosenstock will guide photo-adventurers across two of New Zealand's main islands—the North Island, with its beautiful coastal area and fascinating Maori culture, and the South Island, renowned for its dramatic scenery, towering peaks and glaciers and pristine lakes.

Voyagers International/Ron Rosenstock

For more information, contact: Voyagers Photo Tours, P.O. Box 915, Ithaca, NY 14851, (800) 633-0299 or (607) 257-3091.

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TRAVEL & WORKSHOPS

Canyon De Chelly

October 6–9, 1993

Spend four enchanting days traveling amidst the Anasazi ruins. Photographer Jerry Jacka, known for his sensitve portrayal of Native Americans, and his wife, Lois, will lead photographers through this rugged and unspoiled land. Photograph the shimmering gold leaves of the cottonwood trees, the ancient dwellings and sandstone cliffs and the petroglyphs that dot the canyon walls. Sponsors include Fuji, Nikon and Hasselblad, and the workshop is limited to 20 people.

For more information, contact: Arizona Highways Travel Dept., P.O. Box 6106, Phoenix, AZ 85005-6106, (602) 271-5904.

Friends of Arizona Highways/Jerry Jacka

Autumn In New England

October 1–8, 1993

Some of the richest fall color in the world can be seen in New England, and picturesque villages, rolling countryside and covered bridges are the photographer's "foreground" against the blazing autumn brilliance. Workshop participants will stay in an inn tucked along a country road and gather around the living room's stone fireplace in the evening to discuss each day's harvest of images.

For more information, contact: Macro Tours Photo Workshops, P.O. Box 460041, San Francisco, CA 94146-0041, (415) 826-1096.

Macro Tours/Bert Banks

Nature Photo Seminar

October through November, 1993

Attend a comprehensive one-day photography seminar taught by professional nature photographer Rod Planck. Information on equipment and techniques for photographing nature, natural-light exposure, photographic composition, visual creativity, tips on getting your work published and more will be covered. Locations and dates include: Syracuse, N.Y., October 23; Rochester, N.Y., October 24; Charlotte, N.C., October 30-31; Richmond, Va., November 6-7; Baltimore, Md., November 13-14; and the New York City area, November 20-21.

For more information, contact: Rod Planck Photography, 5210 Hurbert Rd., Spruce MI 48762, (517) 727-3260.

Towns And Pueblos Of New Mexico

October 11–15, 1993

Many of the historic towns and pueblos of northern New Mexico have remained virtually unchanged since the days of Spanish colonization. Led by photographer Steve Anchell, workshop participants will explore and photograph locations such as Chama, Embudo Station, Abiquiu, Chimayo, Tiwa and Santo Domingo, as well as Anasazi ruins and Spanish missions. Topics include large-format technique, filtration for black and white and color, composition, exposure, macro photography, environmental portraiture and architectural and travel photography.

For more information, contact: Branham Ranch Photography Workshops, D.H. Lawrence Ranch Rd., P.O. Box 220, San Cristobal, NM 87564, (505) 776-2622.

Sedona Study

October 22–24, 1993

Led by photographer Lou DeSerio, this weekend workshop, "Advanced Color Visualization," focuses on composition, visualization and lighting. Set in the southwestern beauty of Sedona, Ariz., participants will not only have their worked critiqued, but will have time to explore this colorful and fascinating area.

For more information, contact: The Lou DeSerio Gallery, Sinagua Plaza, 320 N. Hwy. 89A, #14, Sedona, AZ 86336, (800) 283-3302 or (602) 282-9433.

One-Day Nikon Schools

September, 1993 through June, 1994

One-day Nikon School of Photography seminars, conducted in 21 cities around the United States, will address a variety of subjects such as portrait, scenic, fine art and sports photography and photojournalism. Challenges posed by new technological developments will also be covered. In-depth instruction will be offered on topics including understanding light, film, creative techniques, lens selection, filters, electronic flash, exposure, metering and more. Seminars are conducted on Saturdays or Sundays at various locations. Amateur and professional photographers need only attend one session. Nikon technical representatives Sam Garcia and Bill Durrence will teach the East Coast schools; Steve Heiner and Mike Corrado will be the West Coast instructors.

For more information, contact: The Nikon School Information Line, (516) 547-8666.

TRAVEL & WORKSHOPS

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1994	
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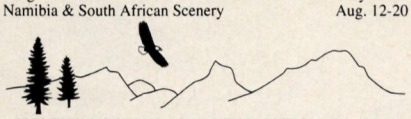
Yellowstone in Winter	Jan. 15-21
Ding Darling NWR, Florida	Feb. 19-25, Feb. 26-Mar. 4
Everglades Extension, Florida	Mar. 4-8
Arizona Desert	Apr. 9-15
Bryce Canyon & Zion, Utah	Apr. 16-22
Monument Valley & Grand Canyon, AZ	Apr. 23-29
Arches in Springtime, Utah	May 14-20
Yosemite & Mono Lake, CA	May 21-27
Mountain Goats, Colorado	June 11-17
Yellowstone in Spring	June 18-24
Glacier National Park, Montana	July 9-15
Oregon Seacoast	July 16-22
Namibia & South African Scenery	Aug. 12-20



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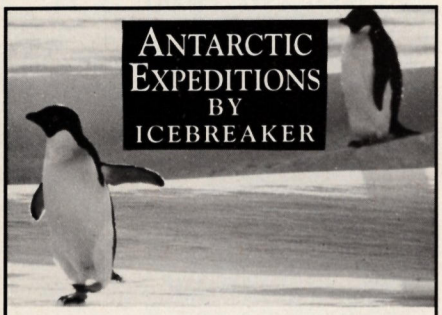

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(Cont'd from page 81)

since Kodachrome went dead on me and many other pros years ago. As a travel photographer, I've long since ceased worrying whether the chemical color of the celluloid film in my camera is a dead match for the chemical color of chemical textiles for sale in a third-world market, chemically speaking. (This begs the issue of reality and authenticity in travel photography, which I intend to deal with in an upcoming column.) Therefore, if I like it, I'll shoot it and shoot with it, and so far, Elite has cut me some eye-popping pictures.

What bugs me? As anyone knows who has come to my travel photography workshop in Santa Fe, N.M., I have a thing about white distractions in photographs—the cigarette butt in the lower corner, white candy wrapper kicking back a hot spot, too much overexposed sky, lonely little clouds of no aesthetic significance dragging my eyes right through a hole. Yes, the eye is always attracted to the lightest area or item in an image, so that white thing better be worth it.

What does this have to do with film wars? In reviews in photo magazines, there's often discussion about a film's shadow detail and other fine features, but I seldom read about my obsession, which is highlight detail. Personally, I'd rather have my shadows block up than my highlights blow out early. I probably toss more chromes due to the latter condition than due to any other technical flaw. In fact, I consciously steer clear of high-contrast situations that I know my film's latitude can't render with acceptable highlight detail.

With all the staring I've done at Fuji 100 RDP versus Elite and Lumiere chromes, to my eye it's a draw in the highlight detail contest. What am I saying on balance? I'll probably use Kodak's new Elite, and I'll probably need a razor eye to detect much difference in sharpness between the two Lumiere pro films and the Elite. That's what I'm told. I'll check this out just as everyone needs to test new films for themselves.

What am I waiting for? Elitism in ISO 200. Back on the battlefield! OP

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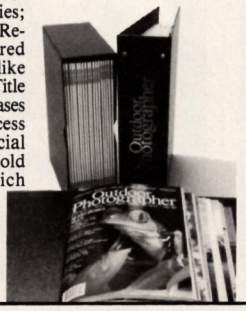

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A PERFECT DAY

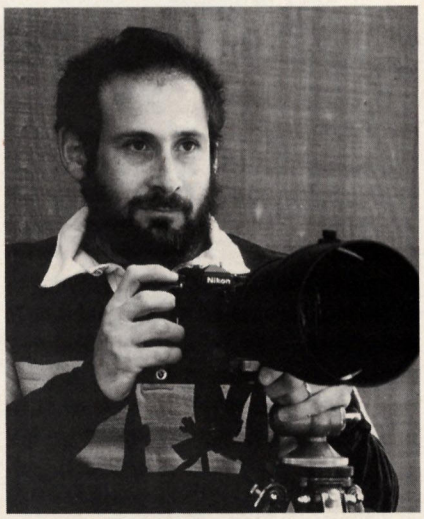
(Cont'd from page 66)

is a sub-menu under "Effects," which is under the "Image" column of the menu bar.

Once I size the wolf, I can then place it where I want in the picture. Since the original wolf photograph was taken under brighter light, I choose "Adjust" and "Brightness and Contrast" from the "Image" column and darken the wolf a bit. Next, I copy the wolf once more and choose "Rotate" from the "Image" column again to make the reflection image of the wolf. I place the reflection in the pond and use the clone tool to touch up the edges and make it blend in better. There you have it. A picture of a wolf howling at the full moon, next to a rainbow at sunset, while an eagle flies by!

This image was composed primarily with the copy and paste features of Adobe Photoshop, but the program is capable of much more. Some additional features include the ability to change the color of one particular area; to burn and dodge with controls over whether the burn or dodge affects just the shadow, mid-tones or highlights; to remove obstructions from a picture; to spot-control contrast, brightness, saturation and hue; and to sharpen soft areas or blur sharp areas, to name just a few.

I'm not saying that this picture is believable or not—I don't think we will ever be able to believe what we see in pictures again. But I do want to show you that with an electronic darkroom, you can create any image you want—you're only limited by your imagination. **OP**



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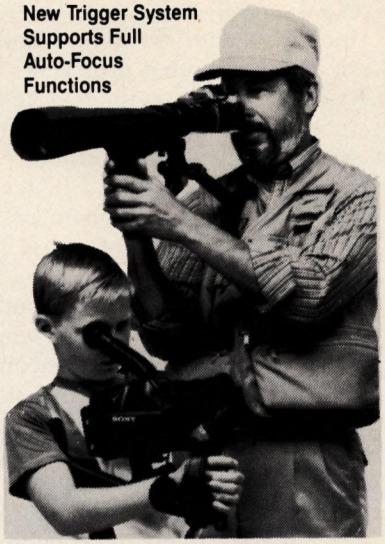

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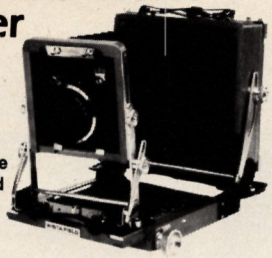

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To take advantage of this information service, just pull out the yellow insert card in this magazine. Circle the numbers corresponding to the products and services you want to know more about, mail it (according to instructions on the card), and within six to eight weeks, you can expect to start receiving literature. It's easy shopping for great, new ways to improve your photography and shoot like a pro!

PHOTO ADVENTURE

(Cont'd from page 24)

who never progress beyond trying to copy what they believe is before their eyes. Great photographs normally incorporate a degree of logically unexplainable "bottom-up" visual intuition with a firm base of "top-down" direct symbolism of what is indeed there to be seen.

Common wisdom has it that only human beings are capable of symbolism, language and making sense of patterns on flat paper representing something else, as in photographs and paintings. It's hardly coincidence that two of the only apes known to have created representational drawings, Moja the chimpanzee and Koko the gorilla, were trained in sign language and thus had an organized form of symbolism wired into their minds. Koko, in fact, went on to stunning success as a photographer with a self-portrait that became a *National Geographic* cover.

I chuckle, imagining what that visionary doubter might have said to me had I brought up Koko's success: "The photograph really isn't that good. It's just like affirmative action: If I took it, it wouldn't have run. They chose it because a monkey did it."

An art psychology experiment in the '60s presented subjects with paintings done by a child, a chimpanzee and two adult painters. No information on the artists was given. Chimpanzee paintings were preferred over those done by adult artists. Beyond the obvious humor of this study is the realization that chimpanzees can produce primal art that evokes a common response in human experience. Human art begins to fail when it pursues, not this central emotional response, but the barren polar opposites of a pure mental exercise or a found object with minimal interpretation, as in most outdoor photography that gives us the feeling, "that doesn't do anything for me."

As Helen the monkey benefitted from exploring an intuitive world she couldn't see, so can photographers who seek results beyond what can be directly observed. The bottom line is that consistently creative photography requires learning to bridge the invisible chasm between an engineer's technical mastery and a blind monkey's unself-conscious intuition. OP

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NEW PRODUCTS

Photoflex Lens Case

A new large-size lens case is now available in the Galen Rowell Camera Bag System. Designed for longer telephoto lenses and able to accommodate accessories up to 11 inches in length and four inches in diameter, the lens case is perfect for holding a 300mm lens or a handle mount-type flash unit.

Adjustable compression straps allow the photographer to contour the lens case to exactly fit his or her specific equipment. Made of heavy-duty nylon pack cloth with foam padding, the lens case is fully modular and adapts to all the bags in the Rowell Camera Bag System. Fits on any belt with a large, reinforced belt loop; available in black with teal trim. Price: $25.

For more information, contact: Photoflex, 541 Capitola Rd. Ext., Ste. G, Santa Cruz, CA 95062, (800) 486-2674 or (408) 476-7575.

Tamron *f*/2.8 Tele-Zoom

A new, fast autofocus 70-210mm *f*/2.8 low-dispersion (LD) lens from Tamron Industries is compatible with Canon EOS models. The LD glass positioned in the front element group ensures ideal compensation of chromatic aberrations.

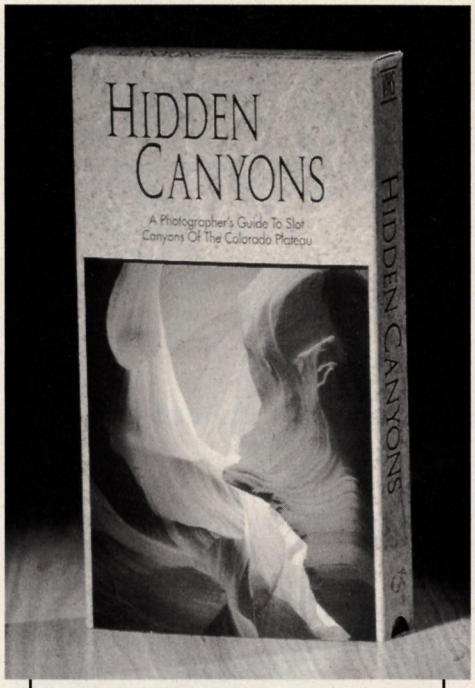
The AF 70-210mm also features a coreless motor-drive, an autofocus range selector and a built-in tripod collar, which works easily when shooting with a tripod or monopod. The lens is designed with a refined chassis, solidly built to withstand photographer abuse. A bayonet lens hood and cushioned, soft case are supplied as standard accessories.

For more information, contact: Tamron Industries Inc., 99 Seaview Blvd., P.O. Box 388, Port Washington, NY 11050-4610, (800) 827-8880 or (516) 484-8880.

Rollei 6003 SRC 1000

As a result of the success of the Rollei 6008 camera, Rollei fototechnic introduces the 6003 SRC 1000. The major difference between the two models lies in the camera back. The 6003 is supplied with a non-darkslide back, which can be interchanged with the back for the 6008 if midroll film is required, while the 6008 is supplied with Rollei's built-in darkslide back. The 6003 also accepts all current 6008 lenses and accessories. Additional features are the camera's electronic depth-of-field preview and its 14-pole socket for wired or remote control. The 6003 SRC 1000 is supplied with an 80mm *f*/2.8 Zeiss Planar lens, 120/6x6 back, waist-level finder, battery, rapid charger and neck strap. Price: $3,995.

For more information, contact: Rollei, 16 Chapin Rd., Pine Brook, NJ 07058, (201) 808-9010.



The Photographer's Guide To The Slot Canyons

"Hidden Canyons," a new video from Black Rabbit Productions, answers your photography questions and takes viewers to some of the most spectacular natural formations in the United States—the slot canyons of southern Utah and northern Arizona. Carved and polished by rushing water and bathed in light and color, these narrow-gauge canyons are popular areas for photographers of all skill levels and are a true challenge to photograph.

This one-hour video tour visits six canyons and discusses their location, how to get to each one and tips on how to protect these beautiful yet fragile wonders. Directed to the serious outdoor amateur, award-winning photographer Robert Howard demonstrates techniques for capturing the mystery and beauty of the canyons on film. Price: $33.

For more information, contact: Black Rabbit Productions, 2525 Arapahoe E-4, Ste. 266, Boulder, CO 80302, (800) 359-2234 or (303) 443-2232.

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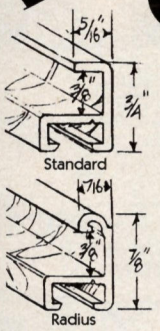

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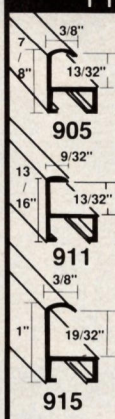

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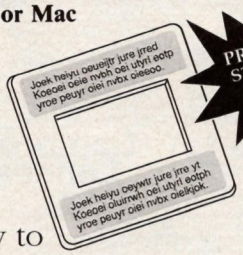

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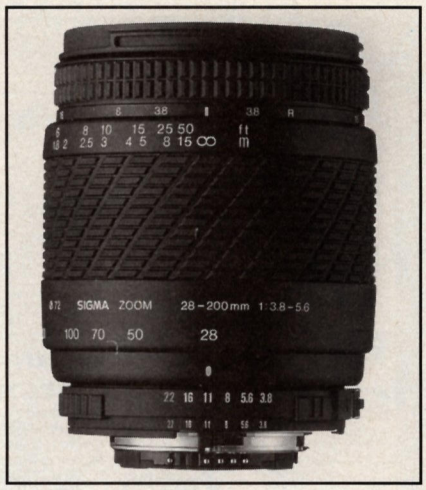

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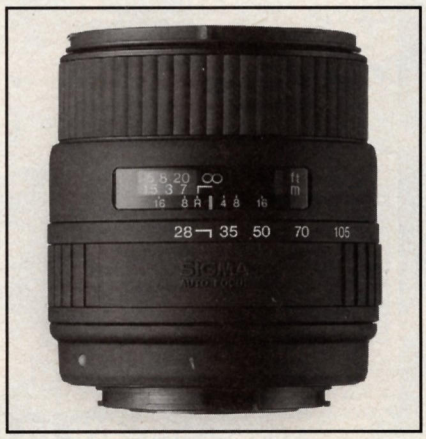
For more information, contact: Sigma Corp. of America, 15 Fleetwood Ct., Ronkonkoma, NY 11779, (516) 585-1144.



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Photograph of Andree Clark Bird Refuge, a forty acre preserve in Santa Barbara, California, that inludes a freshwater lagoon, bikeway and walking paths.

Photographed by: Steve Crain
Manager of Large Format Department at Del's Camera.
Exposure: 1/60th Second at F22
Film: Kodak Plus X
Camera: Wista DX
Lens: Rodenstock 150

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TTL Auto Cord T2M	20.95
TTL Auto Cord T5M	21.95
TTL Multi Con. T	23.95
TTL Auto Con. Type 3	4.95
TTL Auto Con. (spec.flsh)	15.95
Accs. Shoes 1,2,3,4 Ea.	17.95

MACRO FLASH & ACCS.

T8. 164.95 T10	89.95
T28 Twin	124.95
6V Power Pak 2	34.95
T Power Control 1 w.o.p.	139.95
Mac. Flash Shoe Ring	39.95

MACRO ACCESSORIES

80mm Mac Close Up	59.95
Auto Bellows	139.95
Double Cable Release	19.95
Slide Copier	49.95
Copy Stand Kit	249.95
Tele Auto-Tube 65-116	159.95
Focusing Rail	59.95
Focusing Stage	39.95
Auto Ext Tube 7	34.95
Auto Ext Tube 14	36.95
Auto Ext Tube 25	42.95

INFINITY CAMERAS

∞Stylus

NEW **Super Zoom 3000**	**Call**
Zoom 220	Call
Zoom 230	184.95
Stylus	Call
New Stylus Zoom	Call
Junior	84.95
NEW **ECRU**	279.95
Infinity Teleconverter	12.95

OLYMPUS ZUIKO LENSES

SUPPLIED W/CASE AND MOST INCLUDE HOODS

18/3.5	519.95	38/2.8 Mac	259.95	180/2.8*	599.95
20/2 Macro	259.95	50/1.8 w/o Cs	69.95	300/4.5*	439.95
24/2.8*	269.95	50/1.2 w/o Cs	266.95	400/6.3	919.95
24/3.5 Shift	999.95	50/3.5 Mac	269.95	50-250/5	489.95
28/2.8*	179.95	85/2*	289.95	2-XA Conv.	159.95
35/2*	219.95	90/2 Mac	569.95	1.4XA Conv.	249.95
35/2.8 Shift	449.95	100/2.8*	219.95		

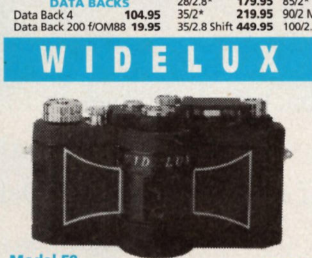
GENERAL ACCESSORIES

250 Film magazines	44.95
Varimagni Finder w/Case	94.95
Camera Grip 1	14.95
Focusing Screens Each	18.95

FILTERS

55 Polarizer	19.95
49 Circ Pol	39.95
49mm Sky	12.95
100mm Sky	49.95

WIDELUX



Model F8

140° Panoramic 35mm Format Camera	1299.95
Hard Case for Widelux F8	129.95
Soft Case for Widelux F8	59.95
Special Set of 6 Filters with Leather Case for F8	99.95

Model 1500

150° Panoramic 120mm Format Camera	2429.95
Soft Case for Widelux 1500	29.95
Box of 120 Slide Mounts (35mm)	69.95

Panoramic Photography *by J. Meehan*
#P166H Hard Cover ....**32.50** *#P166S Soft Cover*...**24.95**

Bogen Horizon Panorama............**849.95**
NOBLE Panorama 2¼..............**Call**

LEICA

Mini AF	219.95
Mini AF Date	234.95
C2-Zoom AF	219.95
C2 Zoom AF Date	249.95

"R" SYSTEM

New R7	1949.95	R6 II	2129.95
R5	1399.95	R6	1549.95
RE	1179.95	R4S BK	549.95

"R" LENSES

21/4	1839.	28/2.8	1299.
24/2.8	1640.	35/2	1289.
28 PC	2289.	35/2.8	789.
50/2	469.	90/2.8	969.
50/1.4	1489.	60/2.8	1395
28-70	775.	70-210	1695.
2X	795.	135/2.8	1089.

"R" ACCESSORIES

R5/R6 Winder	249.95
Motor Drive-R	419.95
Handgrip-R	62.95
Databack-R (old Style)	199.95
EL Pro. 1&4	89.95

"M" SYSTEM

M6	1829.95
M6 Titanium	2699.95
35/1.4 Titanium	1799.95

"M" LENSES

21/2.8M	1495.	35/2M	989.0
28/2.8M	1249.	50/2M	619.
75/1.4M	1949.	50/1.4M	1499.
90/2.8M	935.	135/2.8M	1395.

"M" ACCESSORIES

M6 Winder	469.95	M6 Case	135.
M4-2 Winder			279.95

RICOH

New XR-7M II	Call
KR-5 Super II	Call
KR-5 II w/35-70	179.95
KR10-M	153.95
24-40/2.8 179.95 35-135/3.5	139.95
50cm Elec. Cable Release	16.95
MIRAI III	Call
Shotmaster Zoom Super Date	169.95
Shotmaster Ultra Dual	89.95
Shotmaster Ultra Zoom	120.00
Shotmaster AF-P Date	75.00

Rollei

Prego AF 35mm camera	139.95
New Prego Zoom AF	Call

FUJI

New Mini Dual	1249.95
Discovery 1000 Zoom	159.95
Discovery 3000 Zoom	229.95

PENTAX

New PZ system

PZ-1	Call	PZ-10	Call
PZ-10 w/28-80 FA			Call
New PZ-20			Call
AF 330 FTZ			144.95
AF 400 FTZ			219.95
AF 500 FTZ			259.95
TR Power Pack II			129.95

"FA" AF LENSES

24/2	399.	28/2.8	199.
50/1.7	109.	50/1.4	145.
50/2.8	319.	100/2.8 Mac	489.
85/1.4 IF	799.	200/2.8 IF	1049.
135/2.8	289.	300/4.5	799.
28-80159.	159.	70-200	239.
28-105	309.	100-300	309.
24-50 AF-F			229.95
1.7x f/Pentax AF			74.95

ACCESSORIES

Data Back FC f/PZ10	94.00
Data Back FD f/PZ1	94.00
Terminal Grip F	34.95
Cable Switch F	24.95
Magnifier FB	39.95
Hot Shoe Adapter F	17.95
Ex Cord F5P	17.95
2X AF Telecon	69.95

PENTAX AF CAMERAS

New IQ Zoom 115R	Call
New IQ Zoom 115S	269.
IQ-90WR w/Remote	199.95

PENTAX MANUAL SLR's

P30T	149.95	K1000	139.9
P30T W/AF160SA			169.95

SERIES A LENSES

50/2A	47.95	28-80T	99.00
		70-200 T	99.00

PENTAX ACCS.

AF-160SA	27.95
AF-280T	135.00
AF-400T w/Clamp, PC Cord Bracket&Battery Holder	329.95
AF 080C macro	189.95
510V Power Pack	139.95
Macro Focus Rail III	129.95

PENTAX LX

LX Body w/screen			Call
FB-1	149.95	FA-1	99.95
FD-2	14.95	FE-1	69.95

CONTAX

RTS III	Call	167 MT	Call
ST Call	Call	S2	Call
Contax T2*AF		Call	Call
T2 Chrome Databack			79.95

Zeiss MM LENSES

16/2.8	Call	180/2.8	Call
28/2.8	Call	300/4	Call
35/2.8	Call	28-85	Call
35/2.8 PC	Call	35-70/3.4	Call
45/2.8	Call	35-135/3.5	Call
50/1.7	145.	80-200/4	CALL
50/1.4	245.	Mutar I	Call
100/2	Call	Mutar II	Call
100/3.5	Call	135/2.8	169.95

CONTAX ACCS.

New TLA-280 Flash	Call
TLA Ext. Cord 100S	Call
Data Back 7 f/167	234.95
Hasselblad Adapter	153.00
Cable Switch L-300	19.95
82 Projection filter	44.95
86 Projection filter	49.95

YASHICA

DENTAL EYE II	979.
Dental Eye I data Bk.	149.95
50/1.9	44.95
NEW T4 AF	129.95
108 Multi Program	178.95
107 Multi Program	149.95
FX3 Super 2000	132.95

YASHICA ML LENSES

28-80	115.	35-70	89.95
35-105	119.	75-200	109.95
CS14 Flash			14.95
Auto Bellows (FX3)			119.95
Auto Ext. Tube Set			119.95
FA 5,6 Screen f/230 AF			19.95

Konica

Hexar	Call
Big Mini**	109.95
New Big Mini Zoom***	149.95
Z-UP 28W	129.95
New Mermaid	Call

* $20. ** $10. *** $15. Rebate Avail.

Polaroid

INSTANT CAMERAS

Spectra Pro (Minolta)	99.95
Spectra SE	98.95
Spectra	79.95
Spectra Remote Control	27.95
Special Effect Filter Set	14.95

PASSPORT CAMERAS

203 2-Lens w/Flash	586.95
403 4-Lens w/Flash	739.95
455 4-Lens w/Flash (Req. a 550 back)	719.95
Reduction Lens Set	74.95
AC Adapter	89.95
Spare Back f/203/403	79.95

Sigma AF Zoom

w/case & Lith. Batt.

UP TO $100 CASH AWARD AVAILABLE

New SA 300 35mm AF SLR w/28-70 UC	Call
AF Lenses F/SA 300	Call
28AF (28-50) w/Date	139.
Super 70 (35-70) w/Date	155.
Super 100 (50-100) w/Date	166.
Wireless Remote	19.95

MINOLTA

MINOLTA MAXXUM SYSTEM

Xi BODIES

Maxxum 9Xi	Call	**Maxxum 3Xi**	219.95
Maxxum 7Xi	Call	**Maxxum 2Xi**	179.95
Maxxum 5Xi	329.95		

Xi LENSES

28-80/4-5.6 AF Xi	164.95	Bounce Reflect 3/4	29.95
28-105/3.5-4.5 AF Xi	289.95	Expansion Cards f/7Xi/9Xi	24.95
35-80/4-5.6 AF Xi	107.95	Expans. Cards f/500i/7000i	19.95
35-200 4.5/5.6 AFXi	469.95	New BP-9Xi AA Pk.	99.95
80-200/4.5-5.6 AF Xi	169.95	Panorama holder f/7Xi	19.95
100-300/4.5-5.6 AF Xi	289.95	2X conv. f/Maxxum XI	59.95

MAXXUM FLASHES

2000xi	54.95	3500 Xi	114.95
5200i	213.95	5400 Xi	254.95
		1200 AF-N	279.95

MINOLTA AF LENSES

16/2.8 Call 35/2	224.95	New 28-70/2.8 AF	999.95
20/2.8 429.95 35/1.4	629.95	New 28-85/3.5-4.5	289.95
24/2.8 299.95 50/1.7	59.95	35-80 "i"	109.95
28/2.8 119.95 50/1.4	149.95	35-105 "i"	199.95
28/2	319.95	70-210 "i"	224.95
New 85/1.4	599.95	75-300/4.5-5.6	289.95
135/2.8	149.95	80-200/4.5-5.6"i"	169.95
50/2.8 Macro	299.95	80-200/2.8 APO	949.95
100/2.8 Macro	479.95	80-200/2.8 HS APO	1199.95
200/2.8 APO	779.95	100-300/4.5-5.6 "I"	274.95
300/2.8 APO w/case & Filters	3249.95	2X MAL	49.95
500 f8	409.95	1.4X APO Conv. II	294.95
600/4 APO		2X APO Conv. II	319.00
w/case & Filters	5199.95	2X conv. f/Maxxum "i"	69.95
24-50 f4	274.95	1.4X conv. f/Maxxum i	39.95

SERIES "i" & "Xi" ACCESS.

DB-3, 5	54.95
DB-7	64.95
QD-7, QD-9	64.95
Panorama Adapter	32.95
Holding Strap for 9Xi	64.95

FLASH ACCS.

Wireless Remote Fl. Cntr.	84.95
Bounce Reflector II	14.95
Bounce Reflector 3/4	29.95
OC Cable	24.95
Ex Cable	27.95
Off Camera Shoe	26.95
OC-1100	26.95
OS-1100	26.95
TC-1000 Triple Connector	29.95

Motor Drives & Winder

AW-90 Winder	119.95
MD-90 Motor	169.95

MAXXUM GEN. ACCESS.

RC 1000 S	33.95
RC 1000 L	35.95
Correction Eye Pieces	9.95
Magnifier VN	31.95
IR-1 (N) Set	154.95
Angle Finder VN	89.95
CH72/CH90 Case	9.95
49 Circular Polarizer	39.95
55 Circular Polarizer	46.95
Focus Screen f/9000	17.95

AUTOFOCUS POINT AND SHOOT

ESCORT Date	109.95
Vista Panorama	144.95
Freedom 105i	234.95
Instant Pro	Call
Weathermatic Dual	179.95
Freedom Zoom 65	119.95
Freedom Dual w/Date	109.95
Freedom 202	79.95

MINOLTA SLR CAMERAS

X-700 USA	199.95
X-370-N	149.95
Minolta X370-N with 220X Flash	159.95

MD LENSES

28/2.8 129.95 50/1.7	54.95
135/2.8	114.95
28-70/3.5-4.5	114.95
35-105/3.5-4.5	249.95
35-135/3.5-4.5	349.95
70-210/4.5-5.6	129.95
70-300/4.5-5.8	209.95

MACRO ACCS.

Slide Copier AB3	67.95
Macro Stand 1000	139.95
Slide Copy 1000	169.95
Panoram Head II	74.95

GENERAL ACCESSORIES

80PX	259.95	280PX	93.95
220X Flash			29.95
Motor Drive 1			194.95
Auto Winder G			119.95

NPC PRO BACKS

for Canon F-1	583.00	for Nikon 8008	618.00
for Canon EOS-1	648.00	For Contax RTSIII	699.95
for Canon EOS	608.00	for Nikon F4	638.00
for Nikon FE2/FM2,F3	563.00	for Olympus 3,4	618.95
for Minol. Maxxum XI	628.00	for Nikon N90	629.95

SAMSUNG

AF-Slim R	99.95
AF-Slim Zoom	164.95
AF-Zoom 1050	189.95
AF-Slim R7771	149.95

MINOX 35mm

FCE Flash	79.95
Touring w/Data	349.95

UNDERWATER PHOTOGRAPHY

Nikon

Nikonos RS			**Call**
28/2.8 R	Call	50/2.8 R	Call
20-35 R	Call	SB 104	Call
SB-104 flash Head			899.95
Double Bracket			189.95
Extension Arm			179.95
Double TTL sync cord			144.95

NIKONOS-V

$250 U/W PHOTO LESSON PLUS FREE WET SUIT Call for Exp.

Nikonos V			459.95
Nikonos V w/35/2.5			589.95
15/2.8	1,329.	35/2.5	135.
20/2.8	589.	80/4	289.
28/3.5			289.
28mmUW Finder			16.95
35&80mm UW Finder			17.95
DF-10 Finder			69.95
DF-11	249.95	DF-12	149.95
SB 102w/Case			Discontinued
SB103w/Case			439.95
TTL Sync Cord (Land)			64.95
Double TTL Sync Cord			119.95
Double Bracket			129.95
Double Bracket Set			259.95
Extension Arm			79.95
Extension Arm Set			114.95
Close-Up Kit w/o Case			169.95
Lens Hood & Filter Holder			6.95
CC30R Filter			19.95
Original Nikonos Case			39.95

ACCESSORIES f/NIKONOS

Ikelite Ext Tube Set	99.95
Ikelite Optical Viewfinder	99.95

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Free Shipping on Sea & Sea

New MM MX10	Call
MX10 w/Flash kit	Call
New 20mm Conv. lens f/MX10	Call

Motormarine II	Call
MM II Kit with YS50 TTL	Call
16mm Conversion Lens	Call
20mm Conversion Lens	Call
Macro Lens 1:3	Call
Macro Lens 1:2	Call
YS 50 TTL Kit	Call
Lens Caddy	Call

SEA & SEA/NIKONOS ACCS.

15/3.5 Lens*	Call
16/5.6 Conv Lens	Call
20/3.5w/Case	Call
High Eyepoint viewfndr	Call
Optical Viewfinder	Call
YS-50 TTL Kit	Call
Ext Tubes #3	Call

* Free viewfinder w/purchase (form Mfg.)

Instructional Video Tapes

#VIBUP Basic Nikonos Use	24.95
#MAUPWW.A. Nikonos Use	29.95
#MAUPM Macro Nikonos Use	29.95
#VISGUV Shooting Great Underwater Videos	29.95

ewa-marine

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New! UA (100' max)	164.00
New! UA-X (100' max)	179.00
U-F w/Winder	109.00
U-FXP Winder & Strobe	116.00
U-FX Zoom & Flash	130.00
U-FPN Zoom & Mtr	130.00
U-FGM w/Tall strobe	130.00
U-FZ Medium Zoom	160.00
U-FZL Long Zoom	116.00
AV80 AF SLR Adapter	32.95
U-AL f/Disc & compacks	42.00
U-AFM Autofocus	59.00

VIDEO HOUSINGS

for Sony TR101 Types	139.95
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for Sony V99	219.95

KODAK

Ektachrome UW 135-36	7.95

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Waterproof, Unbreakable

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#1550	84.95	#1600	99.95

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In Stock — Call for Prices
Camera Guard- Seal Tight –*Call*

IKELITE

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Mini C-H	25.	Maxi C-H	39.
Super C-H			45.
Modular H Lite			49.95
Modular Super Lite			169.95
#10951 Mod. Super Lite			49.95
Other Ikelite Accs.			Call
Morris UW Slave Flash			9.95

ikelite

UNDERWATER SYSTEM CAMERA HOUSINGS

Aquashot	54.95
f/Maxxum 7Xi/7000i	369.95
f/Maxxum 7000	289.95
f/Nikon N90	369.95
f/Nikon N8008, 6006	369.95
f/Canon EOS 620/650	299.95
f/Pentax PZ10	369.95

VIDEO HOUSINGS

INCLUDES VIDEO/SUPER EYE, TOP HANDLE & WIDE ANGLE LENS

f/JVC GR2, 27, 10, 20	739.95
f/JVC S55	669.95
f/JVC S505	849.95
f/JVC AX7, 10, 20, 107	719.95
f/Sony TR's Alumin.Hsng	729.95
#603471/81 f/Sony V701/801	799.95
#603501 fSony V101	649.95
f/Sony V & F Series Camcorders	849.95
f/Sony TR101	639.95
f/Sony TR-4, 5, 6, 7	839.95
f/Sony TR-81	689.95
Modular Video Lite w/arm	199.95
New 45W/30min Video Lite	209.95
Pro Video Light Ni-Cad	659.95
Pro Video Light Lead Acid	449.95
Spare L.A. Batt.	78.95

Close out models

VN800 Nikon Hsng.	99.95

SUBSTROBE FLASH & ACCS.

S w/Arm	98.	AI	309.00
150 w/NC	465.	AI/N	305.00
MS	130.	100	239.95
MV	159.	150 D	339.95
		225 w/NC	535.

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We Speak: English, Spanish, French, Italian, German

LENSES
PRICE INCLUDES ANY CAMERA MOUNT

ΣSIGMA LENSES

LENS	MANUAL all Mounts Same Price	for AUTO FOCUS CAMERAS Maxxum "I"	Canon EOS	Nikon AF	Pentax Yash, OM
14/3.5	484.95	484.95	484.95	484.95	-
15/2.8	371.95	-	-	-	-
18/3.5	280.00	280.00	280.00	280.00	-
24/2.8	78.95	121.95	121.95	121.95	121.95
28/2.8	67.95	-	-	-	-
28/1.8	185.95	185.95	185.95	185.95	-
50/2.8 Macro	150.95	150.95	199.95	150.95	-
90/2.8 Macro	241.95	241.95	312.95	241.95	-
180/2.8 APO Mac.	719.95	719.95	739.95	719.95	-
180/5.6 APO Mac.	267.95	267.95	296.95	267.95	-
300/2.8 APO	2199.	2199.	2450.	2199.	-
400/5.6	-	-	-	-	233.95
400/5.6 APO	325.95	392.95	457.95	392.95	-
500/4.5 APO	2999.	2999.	3399.	2999.	-
500/7.2 APO	478.95	478.95	495.95	478.95	
600/8	314.95	314.95	314.95	314.95	314.95
21-35/3.5-4.5	333.95	333.95	333.95	333.95	-
24-50/4-5.6 UC	148.95	148.95	188.95	148.95	148.95
28-70/3.5-4.5 UC	98.95	102.95	129.95	102.95	102.95
28-70/2.8	257.95	257.95	257.95	257.95	-
28-105/4-5.6 UC	198.00	198.00	228.00	198.00	-
28-200/4-5.6	223.95	259.95	-	259.95	-
28-200/3.8-5.6 UC	237.00	237.00	247.00	237.00	-
35-80/4-5.6	87.95	84.95	99.95	84.95	84.95
35-135/3.5-4.5	119.95	-	139.95	-	139.95
New 35-135/4-5.6 UC	137.	148.	158.	148.	-
70–210/4-5.6 APO UC	169.95	169.95	196.95	169.95	169.95
70–210/4-5.6 UC	98.95	102.95	145.95	102.95	102.95
70–210/2.8 APO	629.	629.	629.	629.	-
75-300 4/5-6 DL	164.95	176.	176.	176.	-
75–300/4.5-5.6 APO	199.	245.	289.	249.	-
75-300/4-5.6 UC APO	235.	235.	275.	235.	-
1.4X AF Conv.	-	155.95	155.95	155.95	155.95

Tokina
ALL MOUNTS SAME PRICE

17/3.5 **184.95** 28/2.8 **74.95**
90/2.5 w/o Tube **209.95**
1.1 Ext.Tube for 90/2.5 **74.95**
400/5.6 SD **229.95**
500/8 **209.95**
300/2.8 ATX APO **1398.95**
24-40/2.8 ATX **214.95**
24-70/3.5-4.8 SZX **184.95**
28-70/3.5 SZX **94.95**
28-105/3.5-4.5 SZX **184.95**
28-200/3.5-5.3 SZX **169.95**
60-300/4.5-5.6 SZX **169.95**
70-210/4-5.6 SZX **96.95**
80-200/2.8 ATX APO **364.95**
100-300/4 ATX APO **364.95**
150-500/5.6 ATX APO **809.95**
2x 7 element **72.95**

AF LENSES for EOS
New 17/3.5 **Call**
New 100/2.8 ATX mac **449.**
400/5.6 APO **439.**
20-35/3.5-4.5 **329.**
28-70/2.8 **349.**
28-70/28-4.5 **175.**
70-210/4-56 f/EOS **169.**
80-200/2.8 APO **559.**
100-300/4 APO **779.**

AF LENSES	f/MAXX	NK/PK
17/3.5	Call	Call
100/2.8 mac	385.	385.
300/2.8 APO	1919.	1919.
400/5.6	369.	369.
20-35/3.5-4.5	239.	239.
28-70/2.8-4.5	105.	105.
28-70/2.8	285.	285.
28-200/3.5-4.5	224.	224.
60-300/4-5.6	208.	208.
70-210/4-5.6	105.	105.
75-300/4-5.6	215.	215.
80-200/2.8 APO	479.	479.
100-300/4 APO	615.	615.

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107 **174.**
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Nova 2 **34.95** Nova 4 **49.95**

FILTERS

cokin
CREATIVE FILTER SYSTEM

Free Cokin AF Compact Filter Holder w/Purchase of Any Three Cokin Filters!

COKIN BEGINNERS SET A
Includes: Case f/12 filters, Filter Holder, Book, Hood, #5 Sepia, 56 Star, 83 Diffuser, 160 Polarizer and 346 Double Ex. **ONLY 44.95**

	A	P
Filter Hldr.w/Bk	4.95	7.95
Lens Adapters	4.50	6.50
Can 35-70Adpt.	4.95	5.75
Universal Adpt.	6.99	14.99
A to P Adapter	6.95	6.95
Hasel Adapt B50	15.95	19.95
Hasel Adapt B60	-	19.95
AF Ext. Rings	4.95	-
Case to hold up to 12 Filters	9.95	14.95
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Orange #2	6.50	9.15
Red #3	6.50	9.15
Green #4	6.50	9.15
Sepia #5	6.50	9.15
Blue #20-25	6.50	9.15
Warm #26-28	6.50	9.15
Orange #29-31	6.50	9.15
Flw #36	7.50	-
Diff Cosmos #40	14.95	19.95
Star #56,57	10.50	13.25
Star #58	6.95	-
Incolor 1,2 #60,61	7.99	10.75
Cntr Spot #62-68	7.99	10.75
Clr Spt.#70-78	-	9.99
Clr Vnsh #80,81	9.99	-
Clr Diffuser #82	4.65	-
Diffuser #83,84	7.95	10.75
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Close Up #101-103	8.80	17.75
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COKIN STARTER KIT P
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Spot#672-674	7.99	-
Sunsoft #694	-	5.95
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Storage Box clip	3.95	-
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52mm	9.50	22.95	21.95	24.95	41.95
55mm	9.95	22.95	25.95	28.95	41.95
58mm	10.95	26.95	29.95	33.95	64.95
62mm	16.95	31.95	36.95	39.95	67.95
67mm	17.95	36.95	38.95	41.95	67.95
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3x3	42.95	57.95	57.95	79.95	169.95

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MCS MAGNETIC FILTERS .... **CALL**

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	UV/Sky	Color/ Black & White Close Up	ND3/6/9X Soft Focus	Cross Screen	Polarizer	Circ. Polar.
39mm	24.95	24.95	24.95	39.95	79.95	79.95
49mm	14.95	16.95	17.95	30.95	28.50	63.95
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55mm	18.95	21.95	22.95	36.95	39.80	77.60
58mm	19.95	22.95	23.95	36.95	39.95	81.00
B60	79.95	79.95	89.95	149.95	-	239.95
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62mm **37.** 67mm **42.** 72mm **52.**

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(by Heliopan)
Softar #1, #2
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62, 67mm **169.** 72mm **209.**
77mm **@ 209.**

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UV KODACHROME & EKTACHROME
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55mm **32.** 58mm **34.**
62mm **37.** 67mm **41.**
72mm **52.** 77mm **54.**
3x3 **36.**

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• Hi-band 8mm recording/ AFM Hi-Fi stereo sound • Unique 2-CCD system and RGB primary color processing for truer color rendition • Video signal output to 520 lines of resolution • 8x zoom lens multi dimensional auto focus • Multi-coated lens surfaces • With its compact design, weighing only 2 lbs. 10oz. (without battery), it's smaller and lighter then any other 2-CCD camera / recorder • Built-in character generator for easy titeling and labeling of scenes • wireless remote control. **Call**

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Pro 867 8x Zoom 8mm **Call**
Pro 807 8x Zoom 8mm **Call**
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Panasonic

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PVIQ 403 colr VFCall PVIQ 503 color **Call**

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VN720 Hi8 (Sony TR200) **Call**

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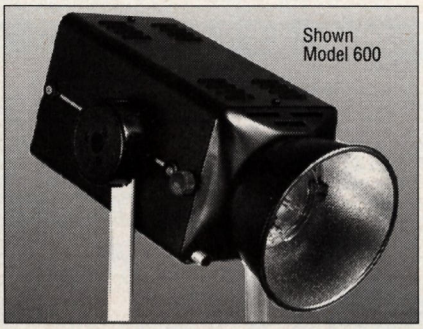

Shown Model 600

Back Panel of FP-600

Flashpoint 600
$389.95

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Flashpoint Monolights

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• Audible signal when ready to fire • Built-in super sensitive slave
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9' Stand, 42" Umbrella **429.95**

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(1200 watt sec. of Power) 2–Flashpoint 600, 2–9' stands, umbrella, Snoot w/color filter set, and carrying case **979.95**

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FULL SIZE
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8x40 **Call** 10x50 **Call**
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ZEISS

P=Pouch C=Case
Does not include either. unless specified

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9X63 **159.**
10X50 WA **109.** 12x50 wa **149.**
8-24x50 **195.**

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7x50 **189.**
10x50 **179.** 8x56 **189.**
10x42 W.A. **169.**

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10x40 CF R/C w/cs **Call**
7x26 Compact w/cs **Call**

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Rubber Armored w/Case
7x36 w/PC Coating **Call**
8x42 Rubber w/PC coating **Call**

SWIFT

BIRDING SERIES
8.5x44 Audobon **409.95**
8.5x44 ED Audobon **184.95**

GIANT
11x80 **239.** 20x80 **259.**
LYN 20X-65X **349.95**
50x EP f/Searcher **14.95**

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with Fashion Strap
6x30 FMTR SX **344.95**
7x50 FMT SX **345.90**
7x50 FMTR SX **388.50**
7x50 FMTR CSX **467.95**
8x30 FMTR SX **329.90**
10x70 FMT SX **439.90**
16x70 FMT SX **519.50**
Tripod Adapter **14.95**

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SPOTTING SCOPES
w/20 to 60x Zoom Eyepiece
TSN-1 77mm 45° **589.95**
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TSN-4 Flurite Straight **899.95**

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25x L.E.R. **136.95**
40x, 25x, 77x **99.95**
159.95
30x w.a. **174.95**
Photo Adapt. **149.95**

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Tripod Adapt (SWTA) **14.95**
Car Wndw Mt (SWOWM) **29.95**

TELESCOPES

WITH ALL ACCESSORIES

Meade

THE LEADER'S EDGE
2045D **609.95**

MEADE SPOTTING SCOPES
2045S **389.95**
97E M/C **329.95**

Edmund Scientific

ASTROCAN 2001 **288.95**
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PRO-OPTIC 500mm f5.6

SPOTTING SCOPE
TELEPHOTO LENS
Fast f/5.6, Short 8.5" (weighs 2 lbs. 11 oz.) May be used as a Spotting Scope with option. accessories. with Case only **249.95**

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Power Star-8 P.E.C. **1,529.**
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Firstscope 80 **444.95**
GPC 80 Reflector **669.95**
C4.5 Reflector **439.95**
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C90 Basic **349.95**
C90 Multi Coated **379.95**
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C90 MC RC w/1¼" **449.95**
SS80 **299.95**
New C5 5" Scope **624.95**
C60 Rubber **229.95**
C60 R/C Zoom **319.95**

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30x60 Multicoated waterproof spoting scope **399.95**

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7x35 E **234.95**
8x30 E **249.95**
10x35 E **274.95**

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7x20 Travelite III **62.95**
9x25 Travelite III **74.95**
8x23 CF Venturer II **71.95**
10x25 CF Travelite III **82.95**

New **Stay Focus II**
w/CASE & USA WARRANTY
7x35 Rubber CT **89.95**
7x50 Rubber CT **108.95**
10x50 Rubber CT **109.95**
8x40 Rubber CT **99.95**

COMPANION POCKETS
(Rubber Coated)
w/CASE & USA WARRANTY
8x20 Sportstar **89.95**
10x25 Sportstar **99.95**

ROOF PRISM w/case
8x32 Execulite **344.95**
10x40 Execulite **364.00**

ASTRONOMICAL w/CS
Pol Filter f/7x50 / 10x70 **14.95**
10x70 HP w/Case **439.95**

SEA & SPORT R/C
WATER PROOF
8x23 Mountainer **176.95**
7x50 Windjammer **169.95**
7x50 Seaside yellow **169.95**
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FREE BIRDFEEDER
WITH BINOCUALR PURCHASE

FIELD SCOPES (BODY ONLY)
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Fieldscope ED **489.95**
Fieldscope Angle **334.95**
Fieldscope ED Angle **534.95**
Photo att; f/Field Scopes **199.95**
20-45x Zoom **139.95**
15,20,30,40X **Ea. 62.95**
60X **69.95**
30x W.A. **114.95**

R/C SPOTTING SCOPES
CASE & USA WARRANTY
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15-45x60 Spotter RC **269.95**
Photo Adapter f/S.S. **49.95**

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We now accept **Discover Card**. Personal checks welcome, will ship without delay. Name must be imprinted on check, also include address, phone, and a copy of major credit card or driver's license for reference. Shipping, handling and insurance additional. 14 day money back guarantee less shipping, with packing and blank warranty card, except film and paper. We ship UPS. Some items special order. All orders are subject to acceptance and verification. Products in this ad are supplied with USA or Adorama's own exclusive warranty at Adorama's option. Copies are available upon written request. Products not accompanied by manufacturer's warranty are not eligible for rebates offered by manufacturer
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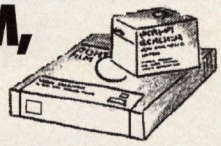
FILM

MAINTAINED.

AT ADORAMA WHEN IT COMES TO FILM, YOU CALL THE SHOTS.



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RELOADABLE FILM

FRESH FILM AT GREAT SAVINGS!

Reloaded in High Quality metal cartridges, including several professional films otherwise not available

ALL FILM GUARANTEED FRESH

When ordering please specify G.S. (Great Savings) Series

ILFORD	24	36	KODAK SLIDE FILM	24	36
B&W FILM					
Pan-F	1.69	2.19	EPV	3.29	4.29
HP-5 Plus	1.79	2.19	EL	3.99	5.89
XP-1	1.79	2.35	5072	3.49	4.99
COLOR PRINT FILM					
6011 VIN	4.49	5.99	6556	2.69	3.69

ILFORD

35mm ASA	20 Exp.	36 Exp.	120	220 ProPak	97' Bulk
PanF (50)	1.89	2.99	2.29	–	25.95
FP-4 (125)	.99	-	1.79	24.45	-
FP4 Plus(125)	1.99	2.75	—	25.95	24.19
XP-1 (400)	1.39	1.65	–	—	—
XP-2 (400)	2.09	2.99	2.19	—	34.69
HP-5 Plus (400)	2.29	2.59	2.15	25.95	29.95
Delta (100)	2.39	3.49	–	-	29.95
Delta (400)	2.19	3.49	–	—	33.95

ILFORD SHEET FILM

		4x5		8x10
		25	100	25
FP4 Plus	(125)	12.49	47.95	41.95
HP5 Plus	(400)	12.49	44.89	40.95
XP-2	(400)	14.95	57.95	49.89
ORTHO		12.49	–	47.95

ILFORD HP5 PLUS ProPak 50 Rolls 135-36 **$118.95**

KONICA

Konica Print Film

ASA	135/24	w/Proc.	135/36	w/Proc.	120/12
100	1.99	7.69	2.29	9.99	2.49
200	2.99	8.49	3.93	11.29	—
400	3.46	8.99	4.41	11.69	2.89
3200	5.93	11.39	7.24	14.95	4.92
ProPrint					
SRG 160	3.09	8.49	4.12	11.29	2.49
New Impesso (50)	3.99	8.99	4.99	11.99	3.79
Infrared 750	5.49	–	4.95	–	–
** 220 PP		24.89			
Chrome					
NEW 100	–	–	2.99	6.58	

POLAROID

NEW High Definition **SPECTRA** (10) 9.29
SX-70 (10) ....9.75 600 (10) 9.49

3 1/4 x 4 1/4 (Single)

New **Polacolor 100** or **64T** 8.49
107 ....6.49 108 ....9.09
664 ....7.29 665 ....8.75
667 ....5.85 669 ....7.95
Fuji FP100C (10 Exp.) 669 Equiv. 14.99

PACK FILM 4x5 (Images)

552 (8) ....13.79 552 Bulk (240) ....389.
553 (8) ....13.89 554 (8) 13.79
559 (8) ....21.69 559 Bulk (240)...619.95

SHEET FILM 4x5 (20 / 200 Sheets)

51 ....31.95 / – 52 ....31.69 / —
53 ....34.95 / 339.95 54 ....33.75 / 329.95
55 ....34.95 / 334.95 57 ....37.95 / —
58 ....64.95 / — 59 ....51.95 / 499.
64T Polacolor 56.95 / 539.95 Prochrome (E6).. 37.49

SHEET FILM 8x10 (Images)

803 (15) ....108.95 804 (15) ....108.95 808 (45) ....359.
809 (15) ....108.95 809 (45) ....303. Holder 8x10 ....169.

POLAROID 35mm AUTOPROCESS SYSTEM

35mm Power Processor 249.95.
35mm Auto Processor 94.95
Illuminated Slide Mounter 29.89
Slide Mounter 15.49
Slide Mounts(100) 6.19
Vivitar Slide Printer 92.95

RELOADABLE CASSETTES

Kodak Ea. .99 100 pcs. 93.95
Plastic Ea. .48 100 pcs. 44.95
Metal Ea. .34 100 pcs. 32.95

BULK LOADERS

TELSOR Bulk Loader 9.95
WATSON Bulk Loader 13.95
LLOYDS Bulk Loader 16.95
Alden Bulk Loader 23.95

POLAROID INSTANT SLIDE FILM

	135-12	135-36
Polagraph(HC)	9.45	—
Polapan(CT)	8.89	13.59
Polachrom(CS)	8.89	13.29
HCPlchr(HCP)	10.29	—
Polablue(BN)	10.49	—

New FOTA Print Film by 3M

	12	24	36
100	1.49	1.69	1.89
200	1.59	2.15	2.39
400	1.89	2.45	3.19

FILM ACCS.

Film Leader Retriever 4.95
Cassette Labels (25) 2.50
X-Ray Film Shield (22) 9.50
X-Ray Film Shield Jumbo (60) 17.95
Cordura Film Guard (60) 29.95

AGFA

AGFACROME

RS Chrome	135-36	120	XRS-Print	135-36	120
RS 50 Plus	5.10	3.35	100	3.79	–
RS 100 Plus	5.99	3.65	200	4.29	2.79
RS 200	7.25	4.15	400	4.65	2.95
RS 1000	9.39	4.79	1000(24x)	4.45	3.95

Agfapan 25-100-400-135-36 ....3.49 120 ....2.29
Triade Ultra- Optima-Portrait 36 exp. ....5.15 120 ....3.49
Optima (200) 135-36 ....5.99 120 ....3.89

KODAK FILM

COLOR PRINT FILM

	ASA	135-24 DI	135-24 Roch.	135-24 Proc. DI	135-24 Proc. Roch.	135-36 DI	135-36 Roch.	135-36 Proc. DI	135-36 Proc. Roch.
Ektar	(25)	2.89	4.29	8.69	10.24	4.65	5.30	12.59	13.25
Ektar	(100)	2.65	3.99	8.54	9.94	3.19	4.95	10.29	12.90
Ektar	(1000)	3.95	5.29	9.95	11.24	5.39	–	13.29	–
GA	(100)	1.89	3.19	7.84	9.14	2.59	4.15	10.49	12.10
GB	(200)	2.49	3.75	8.29	9.70	3.25	4.75	11.09	12.70
GC	(400)	2.75	4.05	8.49	9.99	3.59	5.15	11.15	13.10
GF	(1600)	4.79	5.19	10.95	11.14	6.09	6.59	13.95	14.54
Special GA 36 50 Pack						127.45	199.95	499.00	569.95

KODAK DISPOSABLES

	w/o Proc.	w/Proc.		w/o Proc.	w/Proc.
Funsaver w/o Flash	6.45	13.49	Panoramic 35	8.89	16.39
Funsaver with Flash	10.95	17.95	Funsaver Telephoto	9.95	16.95
Weekend 35	9.75	16.89	Funsaver Portrait	15.95	23.95

PRO PRINT FILM

	ASA	135-24 DI	135-24 Roch.	135-24 Proc. DI	135-24 Proc. Roch.	GS 24	GS 36	135-36 DI	135-36 Roch.	135-36 Proc. DI	135-36 Proc. Roch.
PHR	(25)	–	–	–	–	–	–	5.39	5.49	13.09	13.29
VPS	(160)	3.19	3.69	8.89	9.64	2.59	3.35	4.09	4.79	11.69	12.65
		135-36		135-36 Proc.				135-36 PP		135-36 PP/Proc.	
VPH	(400)	5.55	5.99	13.45	13.95	2.99	3.99	27.69	28.95	66.49	68.70
PPA	(100)	2.69	3.95	10.44	11.90	–	–	12.45	13.25	51.99	52.99
PPB	(400)	3.79	4.99	11.35	12.94	–	–	18.30	24.95	57.95	64.70
PPC	(1600)	4.99	6.25	12.89	14.20	–	–	24.95	30.95	62.49	70.70

120 / 220 / BULK COLOR PRO PRINT FILM

	ASA	120 DI	120 Roch.	120 PP DI	120 PP Roch.	220 PP DI	220 PP Roch.	100'
PHR	(25)	3.49	3.99	–	–	–	–	–
GA	(100)	2.15	2.99	–	–	–	–	–
VP	(120)	2.05	2.49	–	–	–	–	–
VPS	(160)	2.75	3.05	13.75	15.25	26.75	30.29	42.85
VHC	(160)	2.89	3.05	14.00	15.25	–	–	–
VPL	(160)	2.80	3.05	18.99	15.25	–	–	–
VPH	(400)	3.29	3.66	16.45	18.29	34.50	36.69	42.39

KODAK COLOR PRINT SHEET FILM

	4x5 10	4x5 50	5x7 10	5x7 50	8x10 10	8x10 50
4106 (VPS)	15.49	70.95	–	124.89	57.95	–
4108 (VPL)	15.49	70.95	28.95	–	57.95	–
4111 (Vericolor Print)	9.95	–	–	–	32.95	139.95
4112 (Verclor intrng)	15.95	72.95	29.95	–	59.95	269.95
4114 (Verclor intrng)	15.95	72.95	29.95	–	59.95	279.95
4325 (Comm Inst.)	16.99	64.89	–	–	54.89	–
4329 (VHC)	15.49	70.95	31.95	–	59.95	289.95
Masking (4570)	–	62.95	–	94.95	–	204.95
6556 –100'	24.95	5072 –100'	58.95			

FUJI FILM

FUJICOLOR HR PRINT

	ASA	24	w/p	36	w/p	120	Nwsp G
CN	(100)	1.85	7.79	2.05	9.79	2.40	3.85
CA	(200)	2.29	8.19	2.59	10.45	—	4.40
CH	(400)	2.59	8.49	3.65	11.14	2.65	4.79
CU	(1600)	3.67	9.25	5.40	13.29	—	–
CS Realle		2.49	8.39	3.35	11.19	2.59	
CS Realle (220)		6.45					

FUJIMAILERS for Color Slide 36 Exp. 3.09

SPECIALS

GS RDP 24 ....3.09
GS RVP24 ....3.29
Fuji RVP 135-24 ..5.29
Neopan 400-24 .1.49

FUJI DISPOSABLES

Quick Snap 5.99
w/flash 9.49
Panorama 8.99
Waterproof 10.79
New! Panorama w/Flash 135-24 ...17.95

FUJICHROME

		24	w/Proc.	36	w/Proc.
RF	(50)	3.39	6.29	4.99	7.99
RD	(100)	2.49	4.99	3.69	6.49
RH	(400)	4.45	7.25	5.35	7.99

FUJI PROFESSIONAL

Fuji		135-36	120	GS	220	100'
RVP	(50)	6.20	3.59	4.99	7.97	86.69
RFP	(50)	5.35	3.39	3.99	–	69.95
RTP	(64)	6.39	3.45	4.99	–	69.95
RDP	(100)	5.79	3.23	4.39	7.45	73.99
New RHP	(400)	6.99	5.79	–	–	94.49
New RSP	(1600)	8.99	–	–	–	–
NSP	(160)	3.95	2.40	–	5.69	38.39
NLP	(160)	–	2.82	–	–	–
NHG	(400)	4.77	3.19	–	6.59	–
Neopan	(400)	2.29	2.05	–	–	26.49
Neopan	(100)	1.99	1.99	(1600) 135-36		3.45
CDU Duplicating		–	–	3.29	–	38.45

SHEET FILM

		4x5 10	4x5 50	8x10 10	8x10 50
RVP	(50)	16.99	73.99	62.99	292.00
RFP	(50)	14.95	60.39	56.95	259.95
RTP	(64)	14.95	66.39	54.95	257.95
RDP	(100)	14.95	69.95	52.95	249.95
NSP	(160) 20 Sh.	24.45	–	49.95	–
NLP	(160) 20 Sh.	24.45	–	49.45	–
Fuji Quick Load		RDP 49.89		RVP 52.89	

Scotch 3M

COLOR PRINT

135-24	w/Proc.
100 2.08	7.99
200 2.43	8.95
400 2.49	8.64
135-36	**w/Proc.**
100 2.75	10.49
200 3.07	10.95
400 3.45	11.29

COLOR SLIDE

135-36	w/Proc.
100 2.99	6.58
400 4.99	8.29
640 6.49	9.99
1000 6.49	9.99

KODAK SLIDE FILM

	ASA	135-24 DI	135-24 Rochester	135-24 Proc. DI	135-24 Proc. Rochester	135-36 DI	135-36 Rochester	135-36 Proc. DI	135-36 Proc. Roch.
KM	(25)	4.25	4.49	7.04	7.80	5.89	6.25	9.19	9.79
KR	(64)	4.19	4.49	7.28	7.75	5.79	6.25	9.19	9.79
EM	(50)	4.19	*4.69	7.18	*7.35	5.49	*6.38	8.99	*9.97
EC	(100)	3.75	*4.67	6.48	*7.35	3.89	*6.38	7.48	*9.97
ET	(160)	4.89	*4.57	8.88	*8.28	5.99	*7.64	9.58	*11.20
ED	(200)	4.69	*5.49	7.39	*8.28	6.09	*7.64	9.69	*11.20
KL	(200)	5.09	5.49	7.75	8.18	7.10	7.49	10.59	11.08
EL	(400)	5.39	*6.50	8.29	*9.29	6.49	*8.49	*9.89	*12.08

* Ektachrome Rochester is New Elite Film

PRO SLIDE FILM

	ASA	135-36 DI	135-36 Roch.	Great Savings GS 24	Great Savings GS 36	135-36 w/Proc. DI	135-36 w/Proc. Roch.	Bulk 100'
PKM	(25)	6.99	7.19	–	–	10.58	10.79	–
KPA	(40)	7.69	7.99	–	–	11.24	11.58	–
EPY	(64)	5.49	7.17	3.49	4.79	9.05	10.51	74.95
EPR	(64)	5.49	7.17	2.95	4.79	9.08	10.76	74.95
EPX	(64)	5.79	7.17	–	–	9.29	10.76	–
PKR	(64)	6.79	7.15	–	–	10.39	10.76	94.49
EPN	(100)	6.29	7.87	3.29	4.89	9.88	11.46	83.95
EPP	(100)	6.29	7.87	3.89	5.19	9.88	11.15	83.95
EPZ	(100)	6.80	7.87	–	–	10.39	11.46	–
EPT	(160)	6.99	8.63	–	4.99	10.58	12.20	83.95
EPD	(200)	6.99	8.63	–	5.59	10.58	12.20	83.95
PKL	(200)	8.49	8.77	–	–	11.79	12.35	–
EPJ	(320T)	8.85	9.95	–	7.99	12.59	13.54	119.49
EPL	(400)	8.75	9.99	–	–	12.29	13.48	–
EES	(1600)	8.39	9.69	–	–	11.98	13.58	–
EPH	(1600)	10.89	11.99	–	–	–	15.49	–
5071	(DUP)	4.99	6.09	2.89	3.99	8.58	9.68	36.95
HCS	(EKTA)	4.19	4.99	–	–	7.78	8.58	–
Type K	(8071)	7.59	7.89	–	–	11.09	11.48	45.35
S0366		5.89	6.39	–	–	9.69	9.99	57.99
S0279		5.89	6.29	–	–	9.48	9.88	–
IE		15.79	15.90	–	–	–	–	–

120 / 220 SLIDE FILM

	ASA	120 Single DI	120 Single Roch.	120 ProPak DI	120 ProPak Roch.	220 ProPak DI	220 ProPak Roch.
EPY	(64)	3.29	3.99	–	–	–	–
EPR	(64)	3.19	3.99	15.95	19.95	38.95	41.95
EPX	(64)	3.49	4.09	17.45	20.45	–	–
PKR	(64)	4.29	4.69	With Processing		9.19	9.75
EPN	(100)	3.99	4.27	18.75	20.95	42.75	44.49
EPP	(100)	3.25	4.27	16.25	20.95	39.99	42.95
EPZ	(100)	3.85	4.27	19.25	20.95	42.95	44.49
EPT	(160)	3.89	4.49	19.95	22.45	–	–
EPD	(200)	3.79	4.63	18.95	22.45	46.95	49.95
EPL	(400)	4.95	5.95	24.75	29.49	–	–

Kodalux MAILERS

DP-12 ....4.49
DP-12/24 (disposal) 7.99
DP-24 ....5.95
DP-36 ....7.95
PK-12 ....4.99
PK-24 ....2.99
PK-36 ....3.89
PK-59 ....5.19
ESP-1 (push) .2.75
PP-1218 ....10.49
PP-2030 ....13.49

KODAK COLOR SLIDE SHEET FILM

	4x5 10	4x5 Ready Load	4x5 50	5x7 10	5x7 50	8x10 10	8x10 50
6117 (64D)	14.49	–	69.95	29.95	—	56.49	269.95
6118 (64T)	15.49	44.49	69.95	–	129.00	57.95	273.95
6121(DUP)25 Sht	34.95	–	59.49		61.95	119.95	229.95
6122 (EPN)	15.95	–	72.95	29.95	–	59.95	279.95
6105 (EPP)	15.95	46.49	72.95	–	–	59.95	279.95
EPZ (7024)	16.95	–	72.95	–	–	–	299.95
6176 (200)	16.95	–	73.49	–	–	64.49	229.95

HP Combo Plan T Sys. ....36.50 Ready Load Holder 41.25

KODAK BLACK & WHITE FILM

	ASA	135-24 DI	135-24 Roch.	135-24 Proc. DI	135-24 Proc. Roch.	GS 24	GS 36	135-36 DI	135-36 Roch.	135-36 Proc. DI	135-36 Proc. Roch.
PX	(125)	2.05	2.57	7.99	8.52	1.69	2.25	2.79	3.63	10.69	11.58
TX	(400)	2.05	2.56	7.99	8.51	1.75	2.29	2.79	3.60	10.74	11.55
TMX	(100)	2.19	2.62	8.13	8.57	1.75	2.29	2.95	3.69	10.84	11.64
TMY	(400)	2.29	2.76	8.19	8.71	1.90	2.49	3.09	3.84	10.94	11.79
TMZ	(3200)	–	–	–	–	–	–	3.85	4.54	11.80	12.49
TP	(Copy)	–	–	–	–	–	–	4.89	4.99	12.79	12.89
HIE		–	–	–	–	–	–	6.29	6.49	–	–

SPECIAL TX-36 PROPAK (50 ROLL) 134.95

KODAK 120 / 220 BLACK & WHITE FILM

	ASA	120 DI	120 Rochester	120 PP DI	120 PP Rochester	220 PP DI	220 PP Rochester	Bulk 100'
PXP	(125)	–	–	11.89	12.99	25.49	26.49	27.49
TXP	(320)	–	–	12.69	13.49	24.49	26.49	–
TX	(400)	1.89	2.39	–	–	–	–	28.85
TMX	(100)	2.09	2.45	10.45	11.99	–	–	28.99
TMY	(400)	2.09	2.49	10.25	12.45	–	–	31.95
TP	(Copy)	3.99	4.09	–	–	–	–	–

KODAK BLACK & WHITE SHEET FILM

		4x5 25	4x5 Readyload	4x5 100	5x7 25	5x7 100	8x10 25	8x10 50
PX	(4147)	12.89	–	48.99	–	81.59	45.49	87.95
TX	(4164)	12.89	–	48.99	23.95	84.90	45.49	85.49
TMX	(4052)	13.49	39.95	49.95	–	81.95	43.49	–
TMY	(4053)	13.95	–	49.95	–	86.95	45.95	–
S0339 (DUP)		29.95	–	–	–	–	99.95	–
Copy	(4125)	18.95	–	69.95	–	114.95	–	129.95
Super XX	(4142)	24.95	–	99.95	–	159.95	84.95	169.95
Ortho	(2556)–	–	–	34.95	–	56.95	100 Sht.	113.89
HIE	(4143)	36.49	–	–	–	–	–	–
TP	(4415)	29.49	–	–	–	–	94.99	–

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LAST FRAME

***LOOK OUT BELOWWW:** Just before sunset, Ned, a veteran skydiver (top), took Billy on his first tandem parachute jump over Buckeye, Ariz. Photographer Aimee Madsen wanted to portray the feeling she had the first time she let go of the plane and fell into nothingness. The color and diffusion were created by placing a plastic bag painted with oils over the head of her Sunpak flash, combined with the use of a long, hand-held exposure to further blur the image.*

Canon F-1, Canon 24mm, Sunpak flash covered by painted plastic bag for filtration, Fujichrome 100, 1/15 sec. at *f*/8

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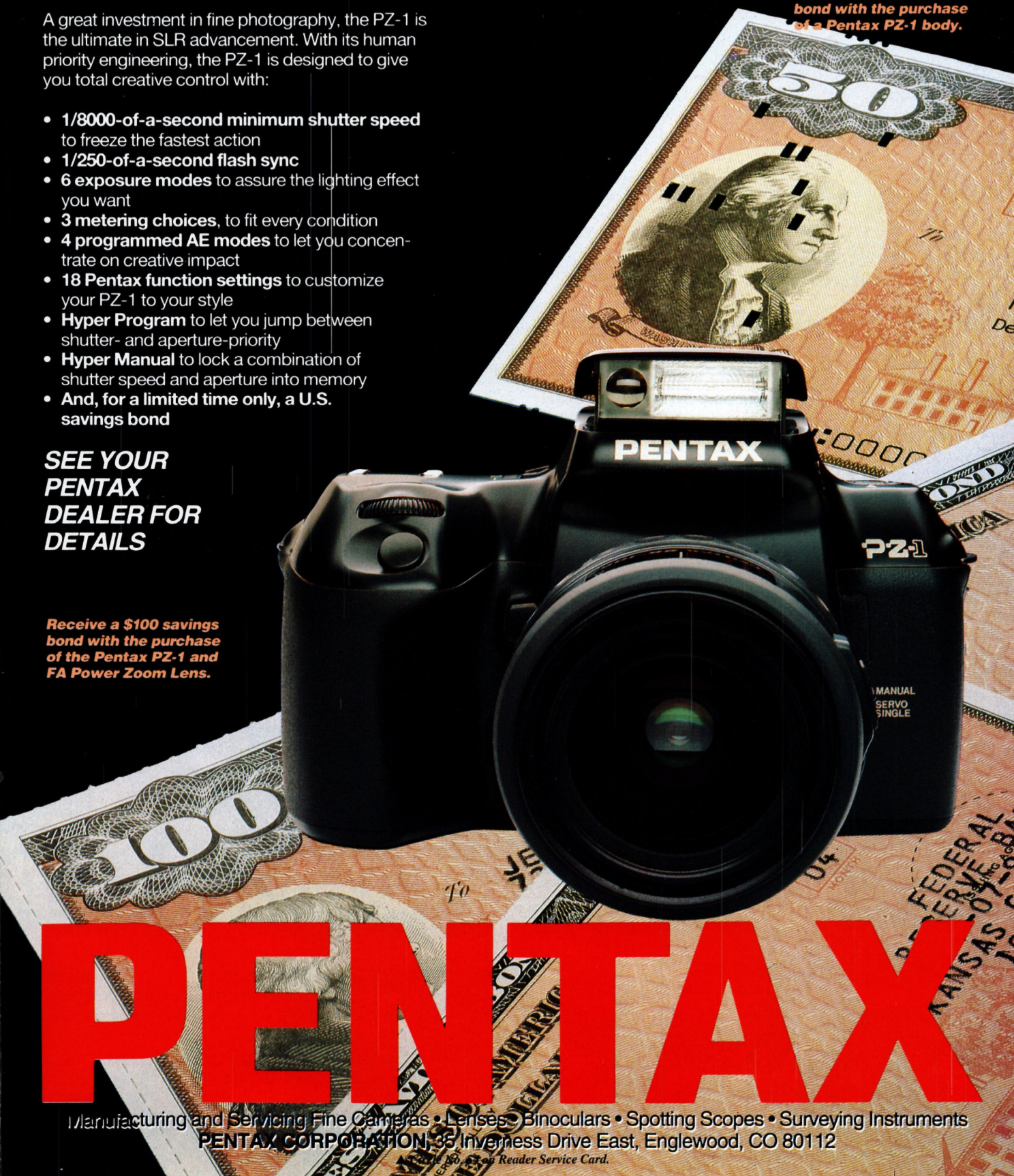

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